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## EDITORIAL

### PYRIDOXINE (VITAMIN B<sub>6</sub>)

The remarkable way in which the many components of the vitamin-B complex have come to be separated and identified is perhaps not sufficiently appreciated. The most recent member to be numbered and named is vitamin B<sub>12</sub>—more correctly, now that so much is known about it, called by its official name 'cyanocobalamin'. Among the vitamin-B factors pyridoxine is a relatively new vitamin. Under experimental conditions with young rats kept on semi-synthetic diets, certain cutaneous manifestations became known as an easily recognizable specific sign of vitamin-B<sub>6</sub> deficiency. A relationship to essential fatty acids was also recognized. Further, it was noticed that, in young animals such as rats, pigs and dogs, deficiency of vitamin B<sub>6</sub> might produce epileptiform convulsions. These manifestations, observed under experimental conditions, have also been seen clinically in young infants.

Pyridoxine was isolated as a pure crystalline vitamin in 1938. Subsequently, as a result of microbiological assays on extracts of natural materials, the existence of other forms of the vitamin was demonstrated. Thus pyridoxine, pyridoxal and pyridoxamine are recognized as occurring naturally in free or in bound forms, including pyridoxal phosphate pyridoxamine phosphate, and in their combinations with protein; there are possibly also other combinations. The potency of the three vitamins pyridoxine, pyridoxal and pyridoxamine is generally equal in animal tests, but for many micro-organisms the three forms show very different actions. They owe their activity to the ability of the organism to convert them into pyridoxal-5-phosphate, which is active in enzyme systems. The vitamin participates in the intracellular and extracellular utilization and transformation of amino acids; in deficiency states there is some disturbance in amino-acid metabolism. It is widely accepted that vitamin B<sub>6</sub> acts as a co-enzyme for one or a number of transaminases, for amino-acid decarboxylase, and presumably in the dehydration of hydroxy-amino acids and in the desulphydra-

## VAN DIE REDAKSIE

### PIRIDOKSIEN (VITAMIE B<sub>6</sub>)

Die merkwaardige wyse waarop die baie bestanddele van die vitamien-B kompleks van mekaar geskei en uitgeken is, word miskien nie na waarde besef nie. Die jongste bestanddeel wat 'n nommer en benaming gekry het, is vitamien B<sub>12</sub> wat, om meer juis te wees noudat soveel daaromtrent bekend is, op sy amptelike naam 'sianokobalamien' genoem word. Onder die vitamien-B faktore is piridoksien 'n betreklike nuwe vitamien. Onder eksperimentele omstandighede met jong rotte wat op half-sintetiese diëte gehou is, het sekere huidverskynsels bekend geword as 'n maklik herkenbare teken van vitamien-B<sub>6</sub> tekort. 'n Verwantskap met noodsaaklike vetsure is ook herken. Daar is verder op gelet dat tekort aan vitamien B<sub>6</sub> by jong diere, soos byvoorbeeld rotte, varke en honde, epilepti-agtige stuiprekkings mag veroorsaak. Hierdie verskynsels, wat onder eksperimentele toestand waargeneem is, is ook klinies by jong suigeling opgemerk.

Piridoksien is in 1938 as 'n suiwer kristalliene vitamien afgeskei. Vervolgens is die bestaan van ander vorme van die vitamien a.g.v. mikrobiologiese bepalinge op uittreksels van natuurlike materiale gedemonstreer. So is dit opgemerk dat piridoksien, piridoksaal en piridoksamien natuurlikerwys in vry of in verbindinge voorkom, insluitende piridoksaal-fosfaat en piridoksamienfosfaat en in hul proteïenverbindinge; moontlik is daar nog ander verbindinge ook. Die vermoë van die drie vitamieë, piridoksien, piridoksaal en piridoksamien is oor die algemeen gelykwaardig by proefnemings met diere, maar hierdie drie vorme toon heel verskillende uitwerkinge by verskillende mikro-organismes. Hulle aktiwiteit word bepaal deur die vermoë van die organisme om hulle tot piridoksaal-5-fosfaat, wat in ensiemstelsels aktief is, te verander. Die vitamien het 'n aandeel aan die binne-sellulêre en buite-sellulêre aanwending en omsetting van aminosure; by gebrekstoestande is daar een of ander verstoring by aminosuur-metabolisme. Dit word algemeen aanvaar dat vitamien B<sub>6</sub> as 'n ko-ensiem vir een of 'n aantal transaminases, aminosuur dekarboksilase, en vermoedelik by die dehidrasie van hidroksi-aminosure en by die desulphidrasie van swavelbevattende aminosure funksioneer. Die veronderstelling dat piridoksaal se aandeel

tion of sulphur-containing amino acids. The assumption that the role of pyridoxal is to act as a co-enzyme for transamination suggests that one of its purposes is to assist in the conversion of amino acids to carbohydrate and through carbohydrate to fat. Other questions remain to be answered regarding the biochemical functions of vitamin B<sub>6</sub>, and there are some discordant aspects with regard to its relation to transamination.<sup>1</sup>

The functions of vitamin B<sub>6</sub> in man have to some extent been surmised from the knowledge gained in experimental studies. The need for the vitamin in human metabolism has been established by indirect and direct evidence. The vitamin-B<sub>6</sub> complex is widely distributed in many human foodstuffs and probably for this reason deficiency does not lead to a widely occurring disease in which one can demonstrate the necessity of the vitamin. The functions of the vitamin in the human body have been determined from spontaneous or induced deficiency-states and the results of treatment. Only in infants has dietary restriction revealed the clinical and biochemical abnormalities.<sup>2</sup> Two hydrocephalic infants maintained on a synthetic diet devoid of vitamin B<sub>6</sub> developed convulsions (after 76 days) in the one case, and anaemia (after 130 days) in the other, together with certain biochemical abnormalities, all of which disappeared after administration of pyridoxine. Many articles have appeared in the literature suggesting that vitamin B<sub>6</sub> may be of value in disorders of the nervous system both in adults and in children. In the last few years a syndrome of abnormal activity of the central nervous system has been studied in infants and children receiving a low intake of vitamin B<sub>6</sub>.<sup>3</sup> The features include increasing hyper-irritability, gastro-intestinal disturbances, increased startle responses, and convulsive seizures; electro-encephalographs show abnormal changes which, however, are not characteristic. All the deviations described return dramatically to normal when pyridoxine is administered. Vitamin-B<sub>6</sub> deficiency has been induced inadvertently when a commercial milk-product was so processed that the vitamin-B<sub>6</sub> and the fatty-acid content were reduced to low levels; convulsive seizures occurred in many infants who received this commercial formula. Excessive heating in sterilization is the most important factor producing a dangerous decrease in the vitamin-B<sub>6</sub> content of milk.

Spontaneous vitamin-B<sub>6</sub> deficiency-states in adult human beings appear to be rare. Certain manifestations in pellagrins, especially muscle weakness, have responded to vitamin B<sub>6</sub>. During pregnancy there would appear to be an increased need for the vitamin, and also in certain clinical metabolic disorders, and perhaps in radiation sickness. It has been shown that convulsive seizures and other features resulting from the use of isoniazid (INH) respond well to pyridoxine therapy.

It has taken approximately 20 years for the definite requirement of vitamin B<sub>6</sub> by the human organism to be established and recognized, but a historical account of the vitamin shows clearly that it has come of age.<sup>4</sup>

is om as 'n ko-ensiem vir transaminasie te dien, doen aan die hand dat een van die doeleindes daarvan is om te help met die omsetting van aminosure na koolhidraat en vanaf koolhidraat na vet. Daar is nog vroe wat opgelos moet word met betrekking tot die biochemiese funksies van vitamien B<sub>6</sub>, en daar is enige ongerymdhede wat die verband daarvan met transaminasie aanbetref.<sup>1</sup>

Die funksies van vitamien B<sub>6</sub> by die mens is tot 'n sekere mate afgelei van die kennis wat by eksperimentele studies opgedoen is. Die behoefte vir die vitamien vir menslike metabolisme is bevestig deur indirekte en direkte bewyse. Die vitamien-B<sub>6</sub> kompleks is wyd versprei in baie menslike voedingsstowwe en om hierdie rede gee gebrek nie aanleiding tot 'n dikwels-aangetreffe aandoening waardeur die noodsaaklikheid van die vitamien gedemonstreer kan word nie. Die funksies van die vitamien in die menslike liggaam is deur spontane op opgewekte gebrekstoestande en die resultate van behandeling vasgestel. Slegs by suigeling het dieetbeperking kliniese en biochemiese abnormaliteit aan die lig gebring.<sup>2</sup> Een van twee suigeling wat aan waterhoof gely het en op 'n kunsmatige dieet sonder enige vitamien in stand gehou is, het stuiptrekkings ontwikkel (na 'n periode van 76 dae) en die ander, bloedarmoede (na 'n periode van 130 dae), tesame met sekere biochemiese abnormaliteite wat almal opgeklaar het nadat piridoksien toegedien is. Verskeie artikels het in die literatuur verskyn wat aan die hand doen dat vitamien B<sub>6</sub> van waarde mag wees vir verstorings van die senuweestelsel, beide by volwassenes en kinders. Gedurende die afgelope paar jaar is 'n simptomegroep met abnormale aktiwiteit van die sentrale senuweestelsel by kinders en suigeling, wat 'n beperkte vitamien-B<sub>6</sub> opname ontvang het, bestudeer.<sup>3</sup> Die kenmerke sluit in verhoogde prikkelbaarheid, maagdermverstorings, vermeerderde skrikmaakreaksies en stuiptrekkings; elektroensefalogramme toon abnormale veranderinge aan, wat egter nie kenmerkend is nie. Al die afwykings wat beskryf is, keer op 'n dramatiese wyse tot normaal terug wanneer piridoksien toegedien word. Vitamien-B<sub>6</sub> tekort is onopsetlik teweeggebring toe 'n handels-melkprodukt op so 'n wyse voorberei is dat die vitamien-B<sub>6</sub> en vetuur-inhoud daarvan tot klein hoeveelhede verminder is; stuiptrekkings het by suigeling, wat hierdie handelsformule ontvang het, voorgekom. Oormatige verhitting by sterilisasie is die vernaamste faktor wat 'n gevaarlike vermindering van vitamien-B<sub>6</sub> inhoud van melk veroorsaak.

Dit skyn of natuurlike vitamien-B<sub>6</sub> gebrekstoestande by normale mense seldsaam is. Sekere verskynsels by pellagra-gevalle, veral spierswakheid, het gunstig op vitamien B<sub>6</sub> gereageer. Dit wil voorkom of daar gedurende swangerskap 'n groter behoefte aan die vitamien is, asook by sekere kliniese metaboliese verstorings en miskien by bestralings-ongesteldheid. Dit is getoon dat stuiptrekkings en ander kenmerke wat ontstaan a.g.v. die aanwending van isoniazid (INH) gunstig op piridoksien-behandeling reageer.

Dit het ongeveer 20 jaar geduur om die definitiewe behoefte van die menslike organisme aan vitamien B<sub>6</sub> te bevestig en te herken, maar 'n historiese verslag oor die vitamien toon duidelik aan dat dit nou mondigwording bereik het.<sup>4</sup>

1. McHenry, E. W. (1956): *Amer. J. Clin. Nutr.*, 4, 364.

2. Vilter, R. W. (1956): *Ibid.*, 4, 378.

3. Coursin, D. B. (1956): *Ibid.*, 4, 354.

4. György, P. (1956): *Ibid.*, 4, 313.

1. McHenry, E. W. (1956): *Amer. J. Clin. Nutr.*, 4, 364.

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## DOCTOR, SPARE NO EXPENSE!

This cry may be interpreted by the youthful practitioner as an indication of the urgent desire of relatives that the doctor should do his best for the sick one. Experience has shown, however, that in many cases nothing could be further from the truth and that this is not the true meaning of the request. As the years pass the more experienced doctor learns to distinguish the cases in which the cry really means that the patient or his relations are beginning to get a little worried about the costs of all the treatment and diagnostic manoeuvres and are trying to contract out of incurring further expenditure in connection with the illness; at the same time they feel that the doctor should not entirely withdraw from the case.

Another form of the request to spare no expense is heard in some cases when it becomes necessary to send the patient into a nursing home or hospital. There is a general impression among the lay public (quite without foundation) that they receive better treatment in a private nursing home than in a general hospital, and that a one-bedded ward is superior to a multiple-bedded ward. While they wish to avail themselves of the luxury of privacy, they are quite

determined that it is not they who should pay for it. With absolute coolness they demand a private room, a special day nurse and night nurse and every luxury. When the time comes to go home, the institution usually takes care that its account is paid before their patient leaves. It is only later that the doctor's bill is encountered, and the large nursing-home expenses are then put forward as a reason for the doctor to reduce his account. This means, in effect, that the doctor is now being asked to subsidize the nursing home. It is not fair; the doctor has not caused the disease and, though he has the greatest sympathy for the patient, he can hardly be asked to become liable for any part of the cost of diagnosis and treatment.

We all do our often unappreciated best, and we do not need to be spurred on by the request to spare no expense, with its underlying insulting suggestion that we are undertreating a patient because we are afraid of incurring expense. The suggestion should be flung back. We are fortunate in this country in being able to send our patient into public institutions where every modern care and form of treatment is available gratis. *Caveat medicus.*

## CRICOPHARYNGEAL ACHALASIA

## WITH A REPORT OF TWO CASES AND DESCRIPTION OF THE RADIOLOGICAL FEATURES

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Achalasia of the cricopharyngeal sphincter of the pharynx is a condition which has been little described, and merits further attention. The condition is believed not to be rare, and should be increasingly recognized when the radiological features are better known.

The malady is characterized by a partial or complete failure of relaxation of the cricopharyngeal sphincter, or a delay in relaxation of the muscle. Above the cricopharyngeus muscle, dilation of the pharynx occurs. The major symptom is dysphagia.

Cricopharyngeal spasm has been described by Brown-Kelly<sup>1</sup> and by Patterson,<sup>2</sup> Mosher,<sup>3</sup> Mollinson,<sup>4</sup> McGibbon and Mather,<sup>5</sup> Gerlings,<sup>6</sup> and more recently by Asherton,<sup>7</sup> Nix<sup>8</sup> and Crichlow.<sup>9</sup>

*Anatomy*

The cricopharyngeal muscle, which forms the cricopharyngeal sphincter, is made up of the lowermost fibres of the inferior constrictor of the pharynx. It consists of 2 portions, an upper oblique part, and a lower transverse portion. The oblique fibres arise from the lower, posterior portion of the cricoid cartilage laterally, and sweep backwards, upwards and medially to insert into the median raphe of the pharyngeal constrictors. The transverse fibres arise from approximately the same position on the cricoid cartilage, and extend horizontally and posteriorly to encircle the

upper oesophageal orifice and insert into the opposite side of the cricoid cartilage. Between the upper (oblique) fibres and the horizontal fibres is a posterior mid-line point of potential weakness known as Killian's dehiscence.

The nerve supply is from the exterior branch of the superior laryngeal nerve, the recurrent laryngeal nerve and the pharyngeal plexus. The sensory nerve supply is from the glossopharyngeus.

*Physiology*

The swallowing mechanism consists of 3 stages. There is first the voluntary contraction of the tongue muscles to propel the bolus from the mouth, and then elevation of the larynx with reflex contraction of the pharyngeal muscles to propel the food mass into the upper oesophagus. The 3rd stage is the involuntary contraction of the circular fibres of the oesophageal muscles to propel the bolus downwards towards the stomach.

The mechanism of action of the cricopharyngeus muscle is as follows:

The muscle remains in tonic contraction, relaxing for the passage of food from pharynx to oesophagus. The cricothyroid muscle contracts at this stage to draw the cricoid cartilage towards the thyroid cartilage, thus narrowing the larynx during swallowing. The

oblique fibres of the inferior constrictor elevate the larynx during relaxation of the horizontal cricopharyngeal fibres, and the upper oesophageal opening is pulled open by its attachments to the cartilages of Santorini. The food bolus thus enters the oesophagus by this extremely rapid and seemingly complex chain of events.

### Pathology

In the condition of cricopharyngeal achalasia, there is partial or complete failure of the sphincter to relax, or a delay in relaxation. The picture is analagous with achalasia of the cardia and achalasia of the pyloric sphincter.

The mechanism is a neuromuscular imbalance with loss of normal reflex function. The achalasia is the result of a broken or 'imbalanced' reflex arc resulting in failure of relaxation of the horizontal fibres of the inferior constrictor muscle of the pharynx during the process of deglutition.

### Etiological Factors

The following is a tabular statement of various etiological factors:

#### 1. Neuromuscular Imbalance

- (a) Idiopathic in the middle-aged
- (b) In association with abnormal contractions of the oesophagus such as 'ring contractions'
- (c) In association with neoplasms and strictures of the oesophagus
- (d) Spasm following impaction of a foreign body in the pharynx (e.g. a mutton bone)
- (e) Tuberculosis of the larynx
- (f) Globus hystericus
- (g) Thyrotoxic myopathy involving pharyngeal musculature.
- (h) Myasthenia gravis
- (i) Scleroderma
- (j) Uraemia. This has not been hitherto described, though other manifestations of central nervous irritation are well known in azotaemia. Case 2 illustrates cricopharyngeal achalasia in uraemia.

#### 2. Central or Peripheral Nervous Origin

- (a) Inferior and recurrent laryngeal nerve palsies and injuries, particularly operative
- (b) Bulbar palsy of any etiology, including poliomyelitis
- (c) Tabes dorsalis
- (d) Herpes zoster of sympathetic ganglia

#### 3. Miscellaneous

- (a) Blood diseases
- (b) Vitamin deficiencies
- (c) Allergy

### Clinical Presentation

Asherton<sup>7</sup> divides the clinical severity into 2 grades, the *latent* and the *dysphagic*.

The patients present clinically with the associated disease, and disorders of swallowing varying from mild discomfort to severe dysphagia. The patient complains that all food 'sticks in the neck', almost inevitably at the level of the thyroid cartilage, and is almost unable to swallow. The dysphagia is never complete, and the patient is always able to swallow his salivary secretions.

**The Latent Form.** The patient is known to have a neuromuscular lesion such as a bulbar palsy, a recurrent-laryngeal-nerve weakness or a history of surgery

to the neck such as thyroidectomy. There may be mild subjective disturbances of deglutition, or no symptoms. The diagnosis of cricopharyngeal achalasia is made radiologically on barium-swallow examination, when the typical pattern is seen.

**The Dysphagic Form.** The patient complains of severe dysphagia, with food sticking in the throat, or of a persistent discomfort as though a foreign body were present in the pharynx. Food may be regurgitated into the mouth, and the patient may complain of a swelling in the upper part of the neck. These cases are said to be extremely rare and, until the recent publication by Crichlow<sup>9</sup> of a large series, very few had been described.

### Differential Diagnosis

The condition must be clinically differentiated from other causes of pharyngeal and upper oesophageal dysphagia, such as hypopharyngeal and upper oesophageal carcinoma, stricture, post-cricoid carcinoma, impacted pharyngeal foreign body, thyroid-gland enlargement, the Plummer-Vinson syndrome, dysphagia due to anterior cervical osteophytes, and functional dysphagia.

Radiological differentiation is usually simple.

### Radiological Features

These are noted on barium-swallow examination with the use of a thin barium-cream. The patient is screened in both the postero-anterior and lateral positions. A modern spot-film device is essential to obtain good radiographs, and exposures should not be longer than 0.2 seconds to obviate lack of sharpness due to movement. The following changes are looked for:

1. Ballooning of the pyriform fossae and later the valleculae on initial swallowing.
2. Elongation of the barium-filled hypopharynx due to relaxation of the lower portion immediately above the cricopharyngeus. This is best seen in the lateral position.
3. Later, a small stream of barium is seen to run down the oesophagus, increasing as the level of barium in the pharynx rises.
4. Demonstration of the site of partial obstruction at the lower end of the hypopharynx.
5. Visualization of the cricopharyngeal sphincter. The muscle is seen to extend in, from posteriorly as a bar of tissue, the level of which varies during the cycle of swallowing, and over the anterior border of which barium trickles from the pharynx into the oesophagus. Templeton's text-book<sup>10</sup> describes the frequent demonstration of the cricopharyngeal sphincter but, according to Crichlow's cineradiographic studies,<sup>9</sup> the visualization of the muscle is always indicative of pathology.
6. Fluid levels remaining in both pyriform fossae and valleculae after the passage of the barium bolus. These are shown as horizontal upper borders of the pooled barium outlined by air in the pharynx.

These enumerated changes are present in varying degree, but we consider that their presence is diagnostic of cricopharyngeal achalasia.

The conditions most likely to cause difficulty in radiological differentiation are anterior cervical osteophytes, oesophageal webs, and post-cricoid carcinoma:

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Fig. 1. P.A. radiograph of pharynx (case 1) showing pooling of barium with fluid levels and dilatation of the pharynx.

Fig. 1a. Line drawing from the radiograph (Fig. 1).

Fig. 2. Lateral radiograph of pharynx (case 1) demonstrating the cricopharyngeus outlined by barium suspension above and anteriorly, and air below.

Fig. 2a. Line drawing from the radiograph (Fig. 2).

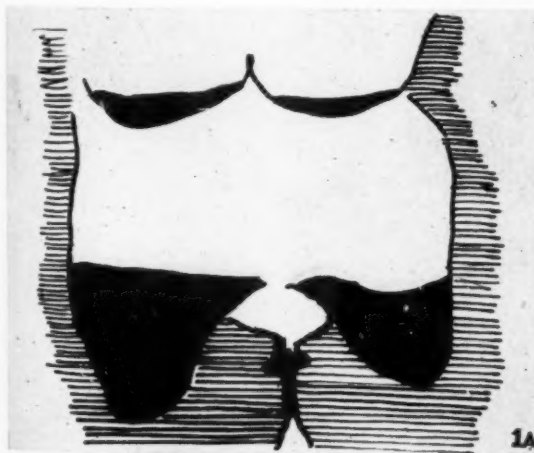
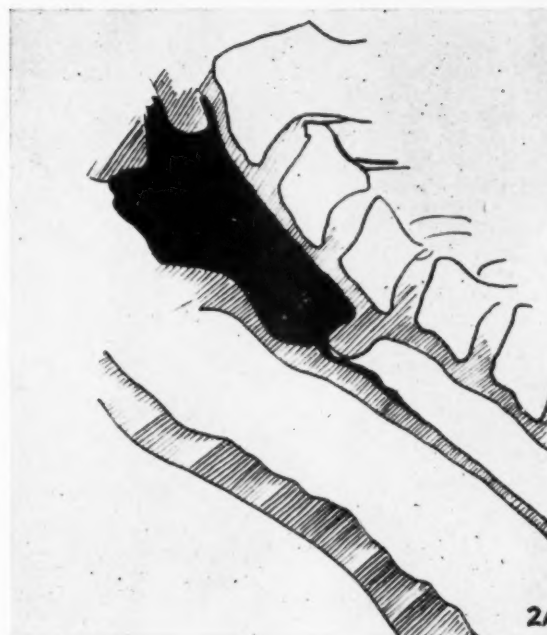




Fig. 3. P.A. radiograph series showing stages in the emptying of the pharynx (case 1).

Fig. 4. Oblique radiograph of pharynx (case 2) showing pooling of barium in pyriform fossae and valleculae, with fluid levels.

Fig. 5. Lateral radiograph of pharynx demonstrating deviation of the barium column by anterior cervical osteophyte.



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**Cervical Osteophytes.** A large anterior cervical osteophyte may indent the upper oesophagus posteriorly and give rise to dysphagia. A distinguishing feature from cricopharyngeal achalasia is that with the osteophyte the indentation always remains at the same level, although the pharynx lifts and falls during swallowing.

**Oesophageal Webs.** These occur in association with the Plummer-Vinson syndrome, and are usually anterior and narrow. In addition the clinical features help in the differentiation.

**Post-cricoid Carcinoma.** This may be distinguished by the marked irregularity of the stricture, and the irregularity of the pyriform fossae, together with swelling of the ary-epiglottic folds. Endoscopy may have to be resorted to.

Figs. 1 and 1a, 2 and 2a clearly demonstrate the radiological features.

#### Treatment

Naffziger devised an operation to transplant the digastric muscles to the thyroid cartilage. Nix<sup>8</sup> reports its success in one of his 3 cases, on whom the operation was performed.

#### CASE REPORTS

##### Case 1

J. F. M., 29-year-old European male. Ten days after extraction of all his teeth under general anaesthesia, he suddenly found himself unable to swallow. Food regurgitated into his mouth and nose. No pain was experienced. He was admitted to a hospital and fed through a thick stomach tube. After 7 weeks he was able to swallow hot fluids. He returned to work but collapsed and was admitted to this hospital, complaining of severe dysphagia. On examination he was found to have nystagmus, a diminished right corneal reflex, some left VII nerve weakness, and uvula deviating to the right. Power, and sensation to pinprick and temperature, were diminished in the left arm and leg, where cerebellar signs were also elicited.

A clinical diagnosis of syringobulbia was made, or possibly a vascular thrombotic episode, although the findings were not clearly related to any particular artery.

Laboratory and pneumo-encephalographic investigations were negative.

Barium swallow showed all the features of cricopharyngeal achalasia as illustrated in Figs. 1, 1a, 2, 2a, and 3.

Endoscopy under general anaesthesia showed immobile left vocal cord and no pharyngeal or oesophageal abnormality.

##### Case 2

J.B., 67-year-old Bantu male. The patient complained of increasing dysphagia over a period of 8 weeks. He was unable to swallow solids unless they were mashed. He also had increasing dyspnoea. On examination the patient was hypertensive and in severe congestive cardiac failure. During hospitalization his blood urea fluctuated between 148 and 192 mg. %.

On barium-swallow examination, barium ballooned the pharynx before entering the oesophagus and pooled in the pyriform fossae and valleculae (Figs. 4 and 5). The patient localized the site of obstruction at the level of the thyroid cartilage. It was not possible to obtain adequate films of the cricopharyngeal sphincter, which was well seen during screening. No other abnormality was noted in the pharynx or oesophagus.

The patient died in uraemia 17 days after admission to hospital. No autopsy was performed.

Both cases presented with dysphagia resulting from cricopharyngeal achalasia, the one in association with a bizarre neurological presentation, the other with uraemia and hypertensive cardiovascular disease.

#### SUMMARY

Cricopharyngeal achalasia is a condition which is little described, but thought to be commoner than the literature would have us believe.

The condition is due to a failure of relaxation, or delayed relaxation, of the lowermost horizontal fibres of the inferior constrictor muscle of the pharynx—the cricopharyngeal sphincter.

There are many etiological factors, the most important being oesophageal pathology, injuries to the inferior and recurrent laryngeal nerves, and bulbar palsies. The main symptom is dysphagia, localized to the pharynx.

Radiologically, the condition is recognized on barium examination by visualization of the cricopharyngeal muscle, at which level there is partial obstruction to the passage of barium, by dilatation and ballooning of the pharynx, and pooling of barium in the pyriform fossae and valleculae.

Two illustrative cases are described and the radiological differential diagnosis discussed.

I wish to thank Dr. Josse Kaye, Chief Radiologist, Johannesburg Hospital, for permission to publish case 1 and for his invaluable aid and advice, Dr. I. Strassburg for permission to use case 2, and Mrs. Stopforth for the photographic reproductions of my diagrams and X-ray plates.

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## HEALTH EDUCATION IN SOUTH AFRICA

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The term 'health education' is to some extent self-explanatory. Owing to recent developments, however, it has come to acquire meanings which are not apparent at first glance. These developments are closely associated with the fact that health education has a peculiar significance for modern conceptions of health and disease on the one hand, and of health and medical services on the other.

## PRINCIPLES OF HEALTH EDUCATION

The popular tendency is to conceive of education as predominantly formal teaching such as one expects to find in schools for example. The emphasis today, however, is on education as the process and the product of learning from all experiences which change us in any way. Thus the planned learning situations devised by educators are only a small part of the total life-experience from which we learn.

We have moved some distance from the older idea that to educate effectively, teaching by an active teacher was the essential element, a view epitomized in the remark of the famous 17th-century educator Comenius, that the teacher was like the sun shining on all pupils alike. Today the function of the teacher or educator is thought of not so much as teaching people, but as using or creating situations which will enable people to learn.

The best learning situations, it seems, are those in which the learner himself feels a need to learn and where he actively participates in the experience rather than where he plays the role of a passive listener. This, of course, is precisely how we most often learn from life experience.

It has been emphasized too, that there is a significant difference between information and knowledge. Information can be, and frequently is, only a series of facts which we know but which may have little or no effect on our lives. Knowledge, in the true sense, however, is not simply something we know about, but something which affects the way we behave, think and feel. It gives us a new vantage-point from which to view the world around us and exercises an abiding influence on the way we lead our lives.

In the development of this modern approach to education, the work of John Dewey<sup>1</sup> and his followers has been of signal importance.

With this kind of approach, the task of planned education is that of grafting itself onto the normal learning situations of everyday life and trying to meet needs the people themselves feel. To do this, the community educator must become part of the daily life of his community and participate in certain aspects of its group life. His participation will range then from discussions with informal groups of friends and neighbours, to advising organizations which aim at achieving public action of a more formal kind.

There are important reasons why these points should be made in connection with health education in particular.

Firstly, health education is education of the whole community. A good deal of health education can and should be given in school. Here, if we are so inclined, we can use formal teaching, because we have a captive audience. The community at large, however, is not captive in a class-room, nor if we accepted the modern concepts of education should we want it to be. The people of the community have their own lives to lead and in their daily behaviour are guided by feelings and motives which are largely independent of the aims of professional health workers. To a significant extent, then, we have to exploit modern educational principles in order to reach, interest and involve the people of the community. Thus the very nature of our task with the community luckily compels us to adopt educational methods which in themselves are more effective.

Secondly, education in the modern sense is of particular importance for problems of health and disease for a reason which is now becoming more appreciated. Health and medical agencies—whether private physicians, hospitals or public health departments—cannot rely for success only on what they themselves do in the form of expert, professional action. Whatever procedures the expert devises—whether in therapeutics, preventive measures or promotive services—there is a public which must cooperate intelligently.

With the severe hospital case, the patient is helplessly caught in a system to which he is virtually compelled to submit whether he understands and accepts what is happening to him or not. A major part of the private practitioner's care, however, is advice to the patient about what he should do for himself. In fact, it is the patient who takes the initiative in approaching his doctor. A public health department may advise and provide a water-borne sewage system, but for this move to be successful, the system must be understood and properly used by the community. Indeed, the very provision of the system may, and frequently is, a response to public demand and not purely a professional decision.

These illustrations could be multiplied indefinitely, all pointing to the significant fact that health and medical agencies must enter into a cooperative partnership with the communities they serve. An American health officer has written an interesting account of his experiences when he adopted this approach.<sup>2</sup>

At the same time, those respects in which community and expert cooperate constitute only a small part of the whole of community attitudes and behaviour of significance to health. Dietary habits, alcohol consumption, smoking, toilet habits and general sanitary behaviour, the use of home remedies, daily work, rest and exercise, the way infants and children are cared for and reared—all these are part of the daily routine of living. All are significant for the physical and mental health of the individual.

The core of the problem is then, that we have a vast store of technical knowledge about health and disease,

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and one to which we are constantly adding. How can we transmit this knowledge to the community so that it can make intelligent use of it in everyday life and at the same time remain sufficiently flexible to respond to new ideas as these emerge?

This is, of course, not a virgin field in which to work. Technical knowledge is constantly passing to the public through media such as health and medical agencies, schools, newspapers, popular magazines, radio and films. These efforts, however, are largely unplanned and very little is being done to exploit modern knowledge of educational techniques or to study and evaluate the education to find out whether it is having any appreciable effect on the health of the people.

#### THE PROFESSIONAL HEALTH EDUCATOR

Health education, too, is obviously a function of all personnel, including physicians, nurses, health inspectors, welfare workers and teachers, for example. It is perhaps true to say that very few of these personnel are exploiting as fully as they might the wide educational possibilities that are open to them. But, even if they were, their functions do tend to limit most of them either to certain selected areas of significance for health and disease, or to certain selected groups within the community at large.

When we examine the health and disease problems of a community as a whole, and relate these to the people's behaviour and knowledge, this new perspective reveals a more comprehensive picture than is ordinarily seen by personnel. We find that it is necessary to analyse the educational problem in terms of the total culture of that community and that, when we have designed our objectives, there is an extensive and specialised literature about the methods of achieving them.

Because of the specialized nature of the task, it has been found desirable to create a particular professional category, the health educator, to take responsibility for the educational policy and work of various services. The health educator's functions are usually to act as adviser in educational method to other personnel in the daily course of their duties and at the same time to organize more extensive education than can be achieved within the immediate duties of these other personnel. Here the educator develops comprehensive community-programmes related to the objectives of the service to which he belongs. It is desirable that the health educator should have access to the level at which policy and programme are planned in a service, since perhaps his most important task is not merely that of helping to coordinate all the educational work that is being done but to help to give new programmes the educational bias they should have if they are to achieve maximum effectiveness.

In the United States extensive use is made of health educators in public health departments, private agencies, hospital services and schools, and at federal, state and local-authority levels as well as by private agencies. Health educators have membership of a special division of the American Public Health Association and in recent years have in addition formed their own professional organization. In Britain too, health education

officers have recently been appointed to health departments; and the Central Council for Health Education, besides producing *The Health Education Journal*, sponsors the development of knowledge and skills important for health education. Interestingly enough, a recent article<sup>3</sup> by the editor of *The Health Education Journal* has described the extensive use made of health educators in the USSR. The World Health Organization, too, has a special section for health education, staffed by health educators and through the consultant services to member countries, health educators are being appointed for certain periods to develop programmes and train personnel in almost all regions in which WHO is working.

What is particularly significant about these developments is not simply the emergence of a new profession, but the recognition of the need for systematic and comprehensive health education in such widely differing countries as the United States and Britain, the central European states, Soviet Russia, South American states and places in the Far East such as India and Burma. These countries differ widely not only politically, socially, and economically but in their patterns of health and disease.

#### HEALTH EDUCATION IN SOUTH AFRICA

In the light of these developments, the situation in South Africa presents a remarkable challenge. Not only do we have health and disease problems of great magnitude, but these exist in different kinds and degrees in a variety of relatively distinctive ethnic and cultural groups. The majority of our populations are in dire need of effective education in such areas as simple preventive measures against disease, dietary matters, and the use of health, hospital and medical services.

During 1955, in an attempt to establish contact with health educators who might be working in the Union, a letter was written to the medical officers of health of 14 leading cities and towns. Only one city reported having a professional health educator with auxiliary personnel forming a distinctive and specialized unit. In 8 of the replies, recognition of the need for health education was expressed, but it was made clear that it was simply part of the routine work of all personnel. Among the 8, a few showed evidence of deliberate planning in health education, the usual spheres of application being in schools and native locations. The work here was mainly through the medium of instructional talks, films, posters and pamphlets. Maternal and child health was also specifically mentioned as a field in which health education was planned. Generally, however, the assumption seemed to be that, although important, health education does not need special systematic planning in itself. In some cases, the department tended to wait for public requests for talks and films. The remaining 5 replies gave no indication of any attention being paid to health education at all.

These results were not particularly surprising but they do indicate the great leeway to be made up in appreciation of the full significance of health education and the extensive practical results that can be achieved by its systematic application. At the same time, of course, until these practical results can be demonstrated in a

distinctively South African situation, it is unlikely that any considerable advances will be made.

#### A SOUTH AFRICAN DEMONSTRATION

The health education work of the Institute of Family and Community Health in Durban may serve as such a demonstration. The Institute makes use of health educators as a special class of personnel and is therefore able to conduct health education programmes which are additional to the health education possible in the ordinary course of their duties by doctors and nurses.

During the early part of 1956 a controlled campaign of practical health education was planned and put into operation. The objectives of the programme were directed to certain problems concerning sanitation and communicable disease in the African community of Lamontville and the predominantly Indian community of Merebank. These problems were associated with a high incidence of hookworm and roundworm, of fly-borne diseases such as gastro-enteritis and dysentery, and of tuberculosis.

The precise objectives, which will be mentioned below, were defined in simple measurable terms and a survey was designed for application before and after the field work to evaluate what progress might be made.

Evaluation procedures similar to this, are an indispensable part of health education. It is only by such means that the value of a programme may be assessed. Many health education programmes are described in terms such as the number of people contacted, the nature of the films shown and the size of attendances. Such descriptions merely delineate methods without revealing anything of their effectiveness. One may, therefore, quite unwittingly and with the best intentions proceed with measures that appear attractive and effective but which may in reality be having only a negligible success.

In the programme described here, the methods involved informal discussions with small groups of friends and neighbours, more formal discussions with organized groups such as clubs and voluntary welfare bodies run by the people themselves, and the use of more impersonal media such as films and posters. There was far more talking with, than talking at people, thus avoiding a common fault in many health education projects. Lectures and 'mass' techniques played a very small part. There was no element of compulsion whatsoever and the results represent entirely voluntary action by the people themselves. The period of field application was 10 weeks and the changes recorded below took place during this period.

The number of families in Merebank at the time was 721 Indian and 75 Coloured, with a total population of 6,699 Indians and 504 Coloured. The survey was carried out on a random 1:4 sample of families, 153 families being included in the final analysis.

At the start of the campaign in Merebank, 125 (81.7%) families in the sample studied had adequate facilities consisting either of municipal pails, waterborne sewerage systems or pit latrines with superstructures. With education about the need for adequate facilities, there was an increase at the end of the campaign to 136 (88.9%) families with such facilities.

Improvements to existing latrines also showed some change. From 8 (5.4%) having lids on latrine seats there was an increase to 26 (17.0%). At the beginning of the campaign 91 (59.5%) latrines showed overflow and seepage and only 29 (19.0%) at the end.

So far as sanitary habits are concerned, there was a reduction from 59 (38.6%) to 13 (8.5%) families with latrines in which there were obvious signs of faeces on the seat, floor or walls. There was also a reduction from 43 (28.2%) to 18 (11.8%) homes with exposed faeces in the immediate environs.

Interestingly enough, there were no changes observed in improving methods of garbage disposal or in eliminating obvious sources of fly-breeding. There was, however, an increase in the number of families owning fly swatters, traps or insecticides from 87 (56.9%) to 108 (70.6%).

There was also an increase in the number of families adequately protecting infants' feeding utensils from contamination from 84 (54.9%) to 109 (71.2%) and their food from 94 (61.4%) to 113 (73.9%).

In Lamontville at the time of the programme, the total population, comprising 1,765 families, was 10,301. In evaluating the programme in this African community, a random sample of 1:6 families was surveyed. The final sample analysed consisted of 240 families.

One of the main problems to be faced in Lamontville is the indiscriminate defaecation by children. Parents were encouraged either to use chambers in the house for their younger children or at least to bury faeces found in the home environs. At the start of the campaign 139 (57.9%) families owned chambers and 11 (4.6%) were burying faeces. During the course of the programme, these increased to 198 (82.5%) and 27 (11.3%) respectively.

So far as household refuse was concerned, families making proper use of the public removal system increased from 184 (76.7%) to 218 (90.8%). Families in whose home and environs there were definite signs of fly-breeding, were reduced from 47 (19.5%) to 24 (10.0%), while those with fly swatters, traps or insecticides in their homes increased from 97 (40.4%) to 155 (64.6%).

Some success was also achieved in the protection of food and water against contamination in the home. At the beginning of the campaign, 193 (80.4%) of families surveyed, had adequate food-storage facilities and 180 (75.0%) adequate water-storage facilities. At the end of the campaign, these had increased to 220 (91.7%) and 228 (95.0%) respectively.

Whether these facilities were properly used or not, was another problem. Separate assessment of proper use of food-storage facilities showed an increase from 147 (61.3%) to 171 (71.3%) families, and of water, 160 (66.7%) to 226 (94.1%) families.

In the analysed sample of 240 families, 124 had babies under 2 years of age. Among these 124 families, 71 (57.3%) adequately protected babies' food and 70 (56.5%) babies' feeding utensils from contamination at the start of the campaign. At the end of the 10-week period, these numbers had increased to 85 (68.5%) and 82 (66.1%) respectively.

The changes mentioned so far in the two communities concern the private management by the family of its

own sanitary arrangements. During the campaign, however, an attempt was made to increase the number of people attending for chest X-ray. The X-ray unit visits the Institute once monthly. For Merebank, 3 visits of the unit immediately before the campaign, yielded a total attendance of 98 people, whereas the 3 visits of the unit during the campaign showed a total attendance of 410 persons. Moreover, a subsequent single visit of the unit produced an attendance of 340 persons, the vast majority of whom were school-age children. Thus at these 4 visits the total attendance exceeded the figure of 564 attendances from Merebank during the whole of 1955 when there was no specific educational programme to encourage the use of the X-ray unit.

In conclusion, certain points seem worthy of special emphasis. The results achieved have a direct and practical relevance for health and disease in these communities. Properly, the results of health education, if it is to be justified at all, must demonstrably meet and solve problems directly affecting mortality, morbidity and the promotion of health. Moreover these results were obtained over a comparatively short demonstration period of only 10 weeks. Under ordinary circumstances, campaigns of this kind would tend to be continuous.

It is significant that the changes produced were consequent upon a new awareness by the people themselves of the need for, and the steps to take in, solving their own disease problems. For this reason they are likely to be more permanent than either coercion or the simple repetition of slogans in the style of commercial advertising both of which have to be maintained constantly in order to induce people to conform.

Finally the programme was conducted by health

educators specifically trained for the task. It is hard to see how such results can be achieved, as well as measured, without the specialized skill of a distinctive category of worker.

#### SUMMARY

Health education has gained particular significance because of recent advances in our knowledge of health and disease and our conceptions of the function of services. In addition modern educational methods provide a peculiarly appropriate tool for the application of community health education. As a result of this and because of the relatively specialized nature of comprehensive health education programmes, a new category of professional personnel, the health educator, has appeared.

There is today an almost universal use both of systematic health education programmes and of health educators to carry them out.

In South Africa, because of the nature both of its health and disease problems and of its people, there is unusual scope for systematic health education.

One demonstration of its effectiveness on the South African scene is described.

I wish to thank the Head of the Institute of Family and Community Health, Durban, for permission to publish this article.

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## GASTRIC PERFORATION DUE TO THE FUNGUS *MUCOR* IN A CHILD WITH KWASHIORKOR

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Human infection with fungi of the family *Mucoraceae* is extremely rare. These fungi, of the class *Phycomycetes* are common contaminants of culture media and also occur on decaying organic matter, bread and fruit.

According to Moore *et al*<sup>1</sup> human mucormycosis is usually secondary to some other disease state, particularly tuberculosis and malignant disease. Gregory *et al*<sup>2</sup> reviewed the literature and noted that in most cases described the infection tended to be limited to a single organ or system. They described 10 cases involving the lungs. These authors also recorded 3 cases of their own where there was involvement of the central nervous system. In each there was a typical triad of orbital infection, uncontrollable diabetes, and the presence of filaments of *mucor* in thrombosed cerebral vessels. A previous example of this triad was recorded by Paltauf<sup>3</sup> and a fifth case was described by LeCompte and Meissner.<sup>4</sup> Lloyd *et al*<sup>5</sup> reported pulmonary

involvement with *mucor* in a pregnant woman. Glycosuria was present on two antenatal examinations. However, this finding was not followed up and whether this woman had diabetes was not established. Moore *et al*<sup>1</sup> reported an example of mucormycosis of the large bowel with perforation and generalized peritonitis, and a further case with orbital involvement was described by Wadsworth.<sup>6</sup> Occasional cases of paronychia and of otomycosis due to *mucor* species have been reported.

The present case is of interest because of the rarity of the condition and because of the enormous size of the perforation which was discovered in the stomach.

#### CASE REPORTS

N.K., a Bantu child aged 26 months, was admitted to Edendale Hospital, Pietermaritzburg, with a history of diarrhoea of 3 weeks' duration. The stools were loose and offensive and contained



mucus but no blood. The mother had noticed generalized swelling of the child's body for 2 weeks. For 1 week before admission episodes of vomiting had occurred especially after food. The child had been breast-fed for only 2 weeks after birth and for the past 2 years had been fed on a grossly inadequate diet consisting mainly of mealie meal and beans.

On examination the child was found to be emaciated and to weigh 15 lb. It was peevish and resented examination. The hair was sparse and showed the typical light coppery colour of advanced kwashiorkor. A bilaterally distributed rash was present on the buttocks, thighs and lower part of the abdomen, showing the crazy-pavement appearance of pellagra. There was marked oedema of the face and legs. The abdomen was distended and the liver edge was palpable 4 finger-breadths below the costal margin. The cardio-vascular, respiratory and central nervous systems appeared normal.

**Laboratory Investigations.** The haemoglobin level was 14.0 g.%. The total white-cell count was 4,500 per c.mm., with a normal differential count. Urine was acid in reaction and contained no albumen or sugar. Stools were fluid in consistency and contained much mucus; no parasites were found and culture for pathogenic organisms gave negative results.

**Progress.** Treatment was instituted with skimmed lactic-acid milk and a commercial preparation containing a high protein content in the form of caseinate. Vitamin supplements were added. However, no improvement was noted on this regime. The appetite remained poor and vomiting was frequent. The oedema persisted and after 4 days the child's condition rapidly deteriorated. Death occurred on the 10th day after admission.

#### Autopsy Findings

The body was that of a wasted male child showing oedema of the face, legs and lower abdomen. The skin of the buttocks and thighs showed patchy areas of exfoliation.

On the abdomen being opened there was found to be a black, necrotic-looking piece of omentum adherent to the anterior aspect of the stomach. This was also adherent superiorly to the under surface of the liver and anteriorly to the transverse colon. On the omentum being removed from the stomach there was found to be a large perforation of the anterior wall of the viscus.



Fig. 1. Showing large perforation of anterior wall of stomach.

This consisted of a complete sloughing of an area about 2 inches in diameter (Fig. 1). The lower edge of the perforation extended as far as the greater curvature and the upper edge was about  $\frac{1}{2}$  inch from the lesser curvature. The margins of the perforation consisted of black, ragged, necrotic tissue, surrounding which was a well-marked zone of reaction with small haemorrhagic spots. Beyond this again the stomach wall was oedematous and exhibited a well-marked red flare about  $\frac{1}{2}$  inch in width. The mucosal folds on the posterior wall of the stomach were oedematous and covered with excess mucus. In spite of the extremely large size of the perforation the lesion was successfully localized by the omentum and there was no general peritoneal reaction.

The liver was enlarged and macroscopically showed gross fatty change. The pancreas was atrophic and paler than normal. The small intestine was thinned to a marked degree and contained an excess of undigested food. There were patchy areas of consolidation in the lower lobe of both lungs and pus was present in the bronchi.

#### Histology

Paraffin-embedded sections were cut and stained with haematoxylin and eosin.

Sections through the stomach wall showed a wide-spread inflammatory exudate with numerous polymorphonuclear and mononuclear cells. There was destruction of the mucosa in the necrotic edge of the perforated area, and the adjacent mucosa was oedematous. Numerous fungal hyphae were present in the stomach wall. These were particularly noticeable in the walls of the blood vessels in the submucosa, and in places the hyphae were found encroaching on the lumen of the vessels. The hyphae were non-septate and showed considerable variation in size.

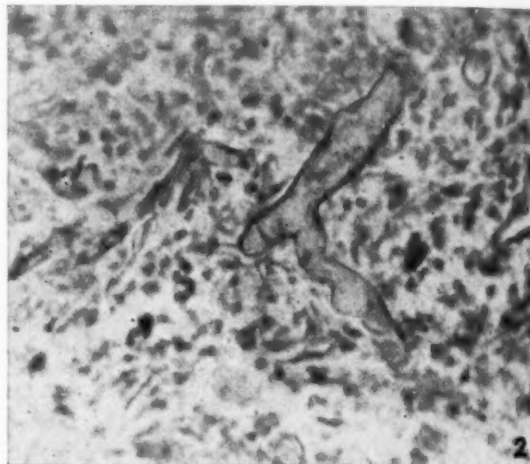


Fig. 2. Showing a large branched non-septate coenocytic hypha of *Mucor*.

The average diameter was about  $10 \mu$  but some were as large as  $20 \mu$  (Figs. 2 and 3). Many of the blood vessels appeared to be thrombosed and this probably accounted for the extensive necrosis. The appearances were typical of those described in *Mucor* infection.

Sections of the liver showed marked fatty infiltration, especially noticeable in the periportal regions of the lobules. The lung appearances were those of a purulent bronchiolitis.

#### DISCUSSION

Unfortunately, in this case, as in most of the examples reported in the literature, no cultures of the stomach wall were made before the viscus was fixed with formalin. For this reason no definite statement can be made regarding the species of *Mucor* which was present. Where such cultures have been made *Mucor corymbifer* has been most commonly found. However, the histological appearances are sufficiently characteristic to enable the diagnosis of mucormycosis to be made with certainty. The hyphae are coenocytic, with a well-defined refractile edge, and show a marked predilection for the walls and lumen of the blood vessels. Moore *et al*<sup>1</sup> have pointed out that an appearance of septation

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Fig. 3. Showing characteristic involvement of wall of blood vessel by hyphae of mucor.

of the filaments may be caused by the presence of alternating light-staining and dark-staining areas. The former are due to the presence of vacuoles, and similar appearances were noted in some of the filaments in the present case.

The lesion was presumably the result of the ingestion of fungus spores, since there were no fungal lesions elsewhere. It has been our experience in performing autopsies on children with kwashiorkor that the stomach is frequently distended and often contains undigested food known to have been consumed several days previously. It is probable that proliferation of the fungus took place rapidly during this period of stasis, with subsequent invasion of the stomach wall. One particularly striking feature of the present case is the size of the perforation. In spite of the sloughing of such a large area of the stomach wall, however, the lesion was successfully isolated from the general peritoneal cavity by the omentum.

The explanation of the association of mucormycosis and diabetes is uncertain. Such an association is not invariable, however, and there was no evidence of diabetes in the present case. Diabetes appears to be a predisposing factor, which may be related to the high glucose-content of the body fluids.

The incidence of mycotic infections of the stomach is very low and only brief mention is made of them in the standard works on pathology. Bockus<sup>7</sup> notes that the majority of such infections are due to invasion with fungi of *monilia* or *aspergillus* species. Infections with *actinomyces* species appear to be less common. Shanks *et al.*<sup>8</sup> quote Behring, who collected 8 cases of actinomycosis of the stomach, 3 of which were primary infections of the viscus. According to Bearse<sup>9</sup> local circulatory disturbances are the probable initiating factors in such infections. The diagnosis of mycotic infections of the stomach is extremely difficult during life, since most of the fungi which can be isolated from gastric lavage material are saprophytes. Such fungi can often be recovered in large numbers from the achlorhydric stomach.

Children with kwashiorkor appear to be more prone to all types of infection than normal children. Jelliffe,<sup>10</sup> for example, comments on the frequency of cancrum oris in Nigerian children suffering from the disease. Trowell *et al.*<sup>11</sup> also comment on the fact that superimposed infections in kwashiorkor often produce little systemic reaction in the tissues involved and tend to be accompanied by a poor leucocyte response and tissue necrosis in situations where suppuration would be more common. In the present case there was no leucocyte response, the total white-cell count never being above 5,000 per c.mm. Tissue necrosis, however, is a characteristic feature of mucormycosis and is related to the involvement of blood vessels with subsequent thrombosis.

#### SUMMARY

A case is described of mucormycosis involving the stomach with perforation in a child suffering from kwashiorkor.

The characteristic features of this type of infection were present, namely, necrosis of tissue with involvement of the lumen and walls of blood vessels.

I am indebted to Dr. J. Parker, Medical Superintendent of Edendale Hospital, and to Dr. C. Glyn Williams for permission to publish this case note.

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## SNAKE BITE: A CASE REPORT

H. H. LAUBSCHER, M.B., CH.B. (CAPE TOWN)

*Rehoboth, South West Africa*

Cases of snake bite are common enough in the Union and South West Africa, and the treatment is mostly straightforward if the case is seen in time. When however, one is practising in huge Native areas, as in South West Africa, one may see some unusual cases which do not come under medical attention until after considerable delay, and then present with complications in which treatment is not so straightforward. The following is the description of such a case:

### CASE REPORT

On 9 December 1955 a young Coloured male, 12 years of age, was brought in from a farm 35 miles away with a story of having been bitten by a night adder 18 hours previously, first on the left hand and then on the lobe of the left ear, while he was asleep on a mat on the floor. He was reported to have first got up and killed the snake before raising the alarm! Up to the time of seeing me he had had no treatment whatsoever.

On examination his general condition was found to be quite good—in fact apparently normal. He was alert and well orientated. The right radial pulse was quite normal. The snake-bite marks could be clearly seen on the lobe of the left ear and on the dorsum of the left hand over the thenar eminence. But whereas the ear showed no swelling or other abnormal signs at all, the left arm was swollen to twice the size of the right, from just above the elbow down to the finger-tips, and the radial pulse could not be felt. The fingers could be moved, but with some difficulty. The swollen parts were hot to the touch, and a fair degree of pain and tenderness were present.

In spite of the lapse of time, the usual antiserum treatment was administered and the patient was admitted to hospital. He was put on antibiotics (aureomycin and penicillin), Anthisan (2 c.c. i.m. q.h.) and Ronicol (2 c.c. i.m. t.i.d.). Because of the great danger to the circulation in the arm, it was decided to make suitable incisions on the hand and forearm to relieve the tension (the skin was already cracking in a crazy-paving pattern) by allowing the serum to escape. One incision was made over the bite into the thenar eminence, another between, and from the heads to the bases of, the 2nd and 3rd metacarpals, while a third was made longitudinally on the dorsum of the forearm, extending from the wrist upwards for 3 inches. In making the last incision, a small artery was accidentally severed, which proved that the circulation was still going, though badly impeded; the artery was ligated. Serum flowed from the wounds in a steady stream, but I was horrified to see layers of pus between serum-filled layers of tissue; this meant to me that gangrene was imminent, and it raised the question of amputation of the arm. After consulting with a colleague over the telephone, I decided to institute more drastic measures to relieve the tension, and to wait and see as regards possible amputation. Thus the arm was immersed in a strong solution of Epsom salts to withdraw the fluid from the arm by osmosis. This was done towards the evening and, as I was called away into the district that night, I did not have a chance to see the case until the next morning, when I was shocked to find the patient was in a state of extreme collapse, with the breathing rapid and shallow and the pulse thready and barely palpable. Clearly the Epsom salts bath had been prepared as a much stronger solution than was thought and had drained the body of fluids. A normal-saline drip was hastily put up and run in at a fast rate; a cut-down had to be done for this and, as the vein was in spasm, procaine was used to get it going. The opportunity was taken to add 20 c.c. of a 20% solution of Soluseptasine to the vacolite. After that another 500 c.c. of 5% dextrose in water was run in at a slower rate, and by the evening the patient was restored,

although very pale. The result of a haemoglobin estimation then done was 8 g.%. Blood transfusion is a very difficult problem here, and it was not possible to give him one.

The swelling of the arm had by now subsided considerably, but the wounds looked very unhealthy and sloughy. The arm was therefore covered with hydrogen-peroxide soaks. The Anthisan injections were discontinued; but the following day the swelling renewed and indeed went right up to the shoulder, and the Anthisan was recommenced; I would not risk another Epsom-salts bath! Slowly the swelling subsided again.

On the morning of the 3rd day after admission he started a fierce bilateral epistaxis, which was stopped only with the greatest difficulty; adrenalin nasal plugs were used, and intravenous calcium Sandoz with vitamin C and Synkavit injections. The Ronicol was discontinued immediately; he could not afford to loose many more red cells.

During all this time, and now into the 4th day, the future of the arm was still in the balance, but the swelling now subsided more rapidly and by the 9th day the arm was back to normal



Fig. 1. Showing the area of dead slough, clearly demarcated, on the dorsum of the hand.

size. The incisions, however, had a most unhealthy appearance and had begun to slough. I tried unsuccessfully to obtain some intramuscular Varidase, but managed to get 2 vials of topical Varidase. The contents of one vial was applied to the affected areas and the next morning there was a remarkable change (Fig. 1). An area of roughly 2 inches square on the dorsum of the hand had clearly demarcated itself as a dead slough down to the extensor tendons. It was decided to use peroxide dressings until the slough had come off completely and then use the remaining vial of Varidase to clean the remaining sloughy tissue and so prepare the area for skin grafting. After a day or two, however,

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it was decided to speed up operations by cutting away the slough. It was then seen that the extensor tendons had also sloughed away to a large extent, and although the Varidase then applied had a good effect, it was decided to postpone skin grafting until it was clear how much tendon was going to survive. As a result the area was not ready for grafting until exactly one month after admission (Fig. 2).



Fig. 2. The area was now clean, nicely granulated up, and ready for skin grafting.

At that time there was marked induration and loss of function of the extensor group of muscles of the left elbow, as a result of which the arm could not be fully extended. The whole group of extensor tendons, including extensor digiti minimi and extensor indicis as well as extensor pollicis longus had been destroyed from the level of the wrist to the heads of the metacarpals. The tendons of abductor pollicis longus and extensor pollicis brevis, as well as those of the deeper muscles, had been spared.

A split skin graft was done on 8 January 1956 under local anaesthetic, with skin taken from the lateral aspect of the thigh. By this time all medication had been discontinued, except for 300,000 u. of P.A.M. daily for the purpose of the graft. The temperature, which had been swinging for about 3 weeks, was back to normal. The bandages were removed on the 10th day, when it was seen that the graft had taken very satisfactorily, although the surface was still very rough (Fig. 3). The patient was discharged on the 11th post-operative day.

He was seen again about 2 months later; the induration of the extensor muscles of the elbow had disappeared and function had returned to normal; extension of the left hand was naturally poor, because of the loss of tendons. The area that was grafted had a satisfactory appearance, but the fingers, except the thumb, were still slightly swollen.

#### DISCUSSION

An interesting point now arises. An artery was accidentally severed when the incision was made over the wrist. The area that sloughed eventually did not correspond to the exact spot where the snake bite was but,

as can be seen on the photographs, rather more exactly to the area of skin and subcutaneous tissues that would normally have been supplied by that small artery that was severed. Normally, of course, it would not have mattered at all, but with the circulation in such a precarious state as it was, may not the severance of that artery have been the deciding factor in causing the area to slough—the last straw that broke the camel's back? Certainly that sloughing was not merely the sloughing of the incision, for it covered a much bigger area and appeared rather suddenly.



Fig. 3. Showing the result of the skin graft.

A second interesting point is the relative, indeed complete, absence of a general effect of that particular snake's poison notwithstanding the very marked and damaging local effect of its first bite.

#### SUMMARY

1. A case of snake bite is described where there was considerable delay before treatment could be instituted.

2. A description is given of all the complications that ensued and of their management. Stress is laid on the fact that in such cases unexpected and unpleasant complications may arise which may prove harassing to the lone general practitioner.

3. A point is made about the great importance of even a small artery in a circulation seriously impeded.

4. The case is also illustrative of a type of snake (night adder) whose bite, at least in this case, had no general effect, in contrast to marked local damage. Another observation was that it was only the first bite that had any effect at all.

## THE ANTI-HYPERTENSIVE ACTION OF FOLIA MENTHAE PIPERITAE

L. KROGH, M.B., CH.B.

Usakos, South West Africa

*Folia menthae piperitae* consists of the dried leaves and tops of *mentha piperita* (Fam. *Labiatae*). This herb grows wild in Europe and can be cultivated in most of the temperate and subtropical areas of the world. Oil of peppermint is distilled from it and menthol separates from this oil on cooling it to a low temperature. There are two varieties of this plant, known as white and black peppermint. The latter yields more oil than the former, but of a coarser aroma.

Fol. menth. pip. is described in the B.P. Codex as a carminative. Menthol is credited with wider uses. As far as the gastro-intestinal tract is concerned we find that the uses have been extended bilaterally, for oil of peppermint is often employed in throat lozenges, while menthol is a popular ingredient of haemorrhoidal suppositories. As a herb, fol. menth. pip. has also found its way into various proprietary medicines and into *boererate*. In the latter form it has been reputed to be a remedy for hypertension.

This study to determine the validity of this belief suffers from many defects, arising chiefly from the fact that it was carried out in general practice. The most serious of these is the small number of cases investigated. The blood pressure could not be measured at regular intervals and for social reasons all the patients had to be examined while working. The latter is, however, of some advantage, because the blood pressure was determined under actual living conditions, and not under the artificial and conducive conditions in which hospitalized patients are placed.

The effective dose was found to be between 4 and 12 g. daily. Patients were instructed to take from 3 to 9 heaped-up teaspoonfuls as a tea. Three cups of boiling water were added to the daily dose the evening before. It was then left in a saucepan with the lid on and taken in 3 divided doses the next day. If preferred it could be heated up again. Some patients brewed each divided dose freshly because the taste was said to deteriorate on standing. Honey or sugar was added if desired.

## CASE REPORTS

Case 1. Mrs. W.A.E., housewife, aged 42. She had been suffering from hypertension for 1 year. Originally the blood pressure was 230/160 mm. Hg, but on a daily dosage of 0.50 mg. of reserpine and 50 mg. of hydralazine it dropped to 160/100. She was then started on fol. menth. pip. While there was an excessive fall in the blood pressure at first, probably in synergism with the

Day	Dose*	Other Drugs	B.P. mm. Hg	Remarks
1	3	—	160/100	—
4	1	—	130/80	dose decreased
11	3	—	160/100	dose increased
16	2	—	130/80	dose decreased
24	3	—	170/110	dose increased
34	3	—	145/90	—
40	3	—	155/100	—
60	3	—	160/120	bad cold
74	6	—	165/120	dose increased.
80	6	—	160/110	—
95	6	—	155/110	—

other drugs, the blood pressure was then maintained at the same level. Fol. menth. pip. apparently had the same effect as the other drugs.

Case 2. Mrs. G.J.E., housewife, aged 48. Hypertension was found on examination and she was started on fol. menth. pip.

Day	Dose*	Other Drugs	B.P. mm. Hg	Remarks
1	6	—	255/130	—
2	6	—	225/110	—
3	6	—	200/100	—
4	6	—	290/140	alcoholic excess
5	9	—	225/120	dose increased
6	9	—	220/120	—
7	9	—	200/115	—
8	9	—	190/100	—
9	9	—	240/140	septic wound
12	9	—	195/115	—
15	9	—	195/115	slight swelling of feet
17	9	—	195/105	—
20	9	—	200/110	—
24	9	—	180/100	—
30	9	reserpine 0.5 mg.	185/105	to try synergism
33	9	0.5 mg.	180/100	—
41	9	0.5 mg.	160/80	—
43	9	0.5 mg.	210/100	washed floors
44	9	0.75 mg.	200/100	resp. increased
46	9	0.75 mg.	155/70	—
58	9	0.75 mg.	200/90	washed floors
60	9	0.75 mg.	190/95	swelling lost
67	9	0.75 mg.	160/90	quiet day
76	9	0.75 mg.	195/100	very hot—98°F

It appears that the range of the blood pressure before treatment was from 255/130 to 290/140. By using fol. menth. pip. alone, it was brought down to 180/90. The addition of 0.75 mg. reserpine daily caused a further drop to 160/90, and on one occasion to 155/70. On strenuous exertion it rose to 210/100, only to drop on rest.

Case 3. F.W.F., aged 52, engine driver, 'boarded' because of ill health. This patient suffered from chronic hypertrophic gastritis and had a gastric haemorrhage in 1952 which was nearly fatal. In 1955 he had a coronary thrombosis and his blood pressure was subsequently found to be 230/130. On 0.75 mg. of reserpine

Day	Dose*	Other Drugs	B.P. mm. Hg	Remarks
1	3	—	200/120	—
2	3	—	180/120	—
3	3	—	180/110	—
4	6	—	210/110	dose increased
7	9	—	180/110	dose increased
15	9	—	185/110	—
18	9	—	180/100	—
19	9	—	170/90	—
26	9	reserpine 0.5 mg.	170/90	—
29	9	0.5 mg.†	210/90	praecordial pain
30	9	0.5 mg.†	170/100	—
31	9	0.5 mg.†	170/100	pentolinium stopped
41	9	0.5 mg.	160/100	—
42	9	0.5 mg.	190/120	chopped wood
43	9	0.5 mg.	160/90	—
53	9	0.5 mg.	160/80	—
55	9	0.5 mg.	160/90	—
65	9	0.5 mg.	160/80	—
84	9	0.5 mg.	155/95	—

\*Heaped teaspoonfuls  
† + 80 mg. of pentolinium daily

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and 50 mg. of hydralazine daily, it dropped to 160/90. A few months later it again rose to 230/120. The daily dosage was increased to 1.0 mg. of reserpine and 100 mg. of hydralazine. The blood pressure then dropped to 180/120, but after 3 months it was again 200/120. Fol. menth. pip. was first employed alone and then in conjunction with other drugs. After an initial drop, the blood pressure again rose; 0.5 mg. of reserpine was then added. The appearance of praecordial pain at this stage necessitated the addition of pentolinium, 80 mg. daily, for a few days, after which only fol. menth. pip. and small doses of reserpine were employed. This combination effectively kept the blood pressure lowered to 160/90 (it was 230/120 before treatment).

Case 4. W.G., shopkeeper, aged 50, complaining of slight praecordial pain only. The blood pressure was found to be 190/120, and treatment was instituted and the blood pressure was lowered from 190/120 to 135/80 by the use of fol. menth. pip. alone.

Day	Dose*	Other Drugs	B.P. mm. Hg	Remarks
1	3	—	190/120	—
2	3	—	175/120	—
3	3	—	160/90	—
5	3	—	145/85	—
8	3	—	130/80	—
14	3	—	135/85	—
29	3	—	130/70	—
35	3	—	150/90	influenza, temp. 99.5°F
45	3	—	135/90	—
70	6	—	190/110	discontinued 5 days
74	6	—	145/90	—
80	6	—	135/80	—

When this was discontinued for 5 days owing to shortage of supply, the blood pressure rose to 190/110. Fol. menth. pip. was then given in a bigger dose and the blood pressure dropped to 135/80.

Case 5. C.H.V., aged 36, engine driver. This patient complained of a fullness of the head. He was in a constant state of nervous tension owing to conditions at his home. His blood pressure was 175/115 and fol. menth. pip. was exhibited. On

Day	Dose*	Other Drugs	B.P. mm. Hg	Remarks
1	3	—	175/115	—
4	6	—	170/120	dose increased
6	6	—	150/110	—
7	6	—	135/100	—
8	6	—	140/100	—
11	6	—	140/105	—
15	6	—	130/95	—
27	6	—	170/120	discontinued 4 days
29	6	—	170/110	started again
33	6	—	150/110	—
37	6	—	140/95	—
43	6	—	140/100	—

one occasion his blood pressure rose to 200/120 before treatment. The blood pressure was lowered from 175/115 to 140/100 on fol. menth. pip. alone. When this was discontinued for 4 days owing to shortage of supply, the blood pressure rose to 170/120. After its use was started again the blood pressure dropped to 140/100.

Case 6. M.N.B., housewife, aged 43. She suffered for 2 months from pyelitis, which cleared up on treatment with antibiotics. No albuminuria was found, but the blood pressure was 180/120.

Day	Dose*	Other Drugs	B.P. mm. Hg	Remarks
1	3	—	180/120	—
3	3	—	145/90	—
5	3	—	150/90	—
8	3	—	150/100	—
10	3	—	150/100	—
15	6	—	160/100	dose increased
18	6	—	165/100	—
30	6	—	155/100	—

Treatment with fol. menth. pip. was instituted, and with this alone the blood pressure was decreased from 180/120 to 155/100.

\* Heaped Teaspoonfuls

## DISCUSSION

As only 6 cases were investigated over a limited period, it is dangerous to draw conclusions from this study. The conclusions require testing on a far larger series of cases, and it is hoped that this will be done.

On the studied cases, fol. menth. pip. had the following effects:

1. A fall of the elevated blood pressure occurred in all 6 cases. In 4 cases the fall was sufficient and no other drugs were required.

2. A synergism with reserpine is suggested in 2 cases. In these two cases the fall during the use of fol. menth. pip. alone was not sufficient.

The B.P.C. does not give the analysis of fol. menth. pip., but ol. menth. pip. is said to contain menthol, menthyl acetate, menthyl isovalerate, menthone, cineol, pinene, limonene, cadinine, phellandrene, furfural, isovaleraldehyde, and amyl alcohol. The unrectified oil contains dimethyl sulphide.

The uses of ol. menth. pip. and menthol are essentially those of an aromatic carminative. Intestinal, gastric and, to a lesser extent, gall-bladder colic is relieved. They act as a mild antiseptic. When they are applied to the skin a dilatation of the blood vessels occur, and this is followed by a sensation of coldness. There is also some analgesia. Menthol may also cause sudden collapse in infants when applied to the nostrils.

No mention is found of the action of ol. menth. pip. or menthol on the blood pressure. The fact that spasm of the smooth muscle of the gastro-intestinal tract is relaxed, that local application causes dilatation of blood-vessels, and that an analgesic effect is produced on the nerve-endings in the skin, suggests that they may have an action in hypertension. If this anti-hypertensive action is confirmed and the active principle is isolated, a further drug for the treatment of hypertension may be made available. Furthermore, it should be cheap and the supply will be unlimited.

## SUMMARY

The use of folia menthae piperitae in high blood-pressure is discussed. Six cases are described in which the administration of this remedy was followed by a fall in blood pressure. In 2 cases the effect was enhanced by the concurrent administration of reserpine. The number of cases is too small for a definite decision, but it is hoped that the remedy will be further investigated.

## SAMEVATTING

'n Beskrywing word gegee van hoe daar 'n verlaging van bloeddruk ingetree het na die toediening van folia menthae piperitae in 6 gevalle met hoë bloeddruk. In twee gevalle het reserpine die werking skynbaar versterk. Dit word beklemtoon dat die aantal beskreeve gevalle te klein is om 'n vaste beslissing te gee. Die hoop word uitgespreek dat die middel verder ondersoek sal word.

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## UNIVERSITEITSNUUS : UNIVERSITY NEWS

Die Tweede Jaar van die mediese kursus van die Universiteit Stellenbosch sal in 1957 ingewy word. Die Departemente van Anatomie en Fisiologie sal in 'n nuwe gebou, wat onlangs op Stellenbosch voltooi is, gehuisves word.

Dr. F. J. van Eck Kirsten, wat tans by die museum van die Royal College of Surgeons, Londen, werksaam is, is as Professor in Anatomie aangestel en sal sy dienste gedurende die loop van 1957 aanvaar. Prof. H. E. Brink, wat die Leerstoel in Fisiologie vir 'n aantal jare op Stellenbosch beklee het, sal die mediese kursus in sy vak waarneem.

Die beginsel is aanvaar dat die professorate in Anatomie, Fisiologie en Farmakologie, beide te Kaapstad en Stellenbosch, onder die gesamentlike mediese personeelskema van die Provinsiale Administrasie en die betrokke Universiteite sorteer. Sekere besonderhede aangaande die aanwending van die beginsel tot die Universiteit, Kaapstad, moet nog afgehandel word. Op Stellenbosch is die betrekking van Professor in Farmakologie nog nie gevul nie.

The Second Year of the medical course of the University of Stellenbosch will be inaugurated in 1957. The Departments of Anatomy and Physiology will be accommodated in a new building at Stellenbosch which has recently been completed.

Dr. F. J. van Eck Kirsten, at present at the museum of the Royal College of Surgeons, London, has been appointed Professor

of Anatomy, and will take up his duties in the course of 1957. Prof. H. E. Brink, who has held the Chair of Physiology at Stellenbosch for some years, will conduct the medical course in his subject.

The professorships of Anatomy, Physiology and Pharmacology, both at Cape Town and Stellenbosch, have in principle been declared as coming within the joint medical staff scheme of the Provincial Administration and the respective Universities. Certain details have still to be settled in the application of the principle to the Cape Town University. At Stellenbosch the post of Professor of Pharmacology has not yet been filled.

Dr. L. Eales, M.D., M.R.C.P., full-time lecturer and assistant physician in the Department of Medicine, Groote Schuur Hospital, Cape Town, and the University of Cape Town, has been nominated by the University Council for *ad hoc* promotion to the rank of Associate Professor in Medicine, for meritorious service. Dr. Eales is at present in the United States of America for 6 months on a Rockefeller Travelling Research Fellowship.

Dr. W. P. U. Jackson, full-time lecturer and assistant physician, Groote Schuur Hospital, Cape Town, and the University of Cape Town, has been nominated by the University Council for a Research Fellowship. This award is made for distinguished research.

## IN MEMORIAM

JACOB WOLF RABKIN M.B., Ch.B. (Edin.)

Dr. S. C. Shore, of Cape Town, writes: There are many living to-day in the Cape and indeed in South Africa who owe much to Jacob Wolf Rabkin—children and parents, doctors and nurses.



Dr. Jacob Wolf Rabkin

Wolf Rabkin, one of the most important of the pioneering paediatricians in South Africa, was a colourful character, with a vivid, dynamic personality and amazing energy. Here was a man you could never overlook—here was a doctor you could never forget. His influence in the development of paediatrics in Cape Town will remain indelible.

The son of a Rabbinical family in Lithuania, he started life as a theological student, retaining always a fondness for quoting from the Old Testament. When the family emigrated to South Africa he became interested in medicine, finally graduating in Edinburgh. There he served as a house surgeon in the children's wards under John Fraser—probably the deciding factor in his choice of paediatrics as a career. Some 30 years ago he returned to Cape Town and set up in practice as a paediatrician—at that time a specialty that was held somewhat in contempt, and he was referred to condescendingly by his colleagues as a baby feeder. He was indeed a very successful baby feeder, but he was very much more than that—he was an outstanding Clinician, with an uncanny habit of suspecting and detecting acute abdominal and intracranial diseases in their earliest stages. No one could watch him at work on an ill and fretful child, without realizing that here was a man who, quite apart from a deep knowledge of their ailments, had a genuine

and profound love for children. The surgical aspect of acute disease fascinated him and he always found pleasure in consulting with his surgical colleagues and was greatly respected by them for his shrewd observations. He made a point of attending and even assisting at operations, was delighted when his diagnosis proved correct (as it usually did) and was not above advising the surgeon how best the operation might be performed.

Rabkin as a teacher was really in his element. He enjoyed teaching. His dark eyes, latterly ringed by Xanthelasma, would light up his fallow, severely-lined face, his voice would boom, his large expressive hands would stress important points and characteristically pluck at his lower lip.

As a teacher of nurses he had no equal, and in this field his pioneer work at the Peninsula Maternity Hospital exerted an influence that extended far and wide. He used to hammer home to the nurses the basic principle that a child was helpless, completely helpless, and could not grumble or complain to the doctor, and therefore it was immoral to nurse children unless the nurse was truthful, patient and observant. Nurses never forgot his teaching.

As a teacher of medical students he devoted all his energies to teaching a clinical approach to the sick child. He was superb at driving home the basic elements of diagnosis and treatment, but he was essentially the practical clinician. He was no academician and made no effort to fire his more talented students with ideas. He took endless trouble teaching his housemen. I can still hear him berating them: 'A sick child needs the same attention at 2 a.m. as he does at 2 p.m.—why did you not send for me?'

'Rabbit' had no hobbies—he was not at all interested in games of any sort, but he read a tremendous amount—philosophy, biography, religion—he really used his magnificent library. If he can be said to have had a hobby it was public speaking—and, with his histrionic ability and love of the limelight, he made a magnificent orator. Although he made delightful *ex tempore* speeches, his talks were meticulously prepared, each sentence being lovingly polished. His public lectures on his favourite subject Israel were masterpieces.

He made use of this histrionic ability in committees, where he had a penchant for fighting lost causes—his 'temper' was mostly just a dramatic way of driving home a point. A loyal and generous friend, he was an indefatigable, relentless and even a fanatic opponent.

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In private practice Rabkin had a tremendous following. Made irascible by fatigue, he would sometimes treat mothers in a very brusque manner—but they came back. He made them wait for hours in his crowded waiting room—but they waited. He never hurried over a patient—'treat the patient that you are examining as if he were your only patient' was a favourite saying of his. He never hurried to his private patients—he had no sense of time—but he was rarely late for his honorary work at the hospitals. He held his large practice because of his clinical ability and because he imparted to parents and to doctors a sense of absolute security.

Rabkin started off 30 years ago as paediatric registrar at the new Somerset Hospital and clinical tutor at the University of Cape Town. He opened in 1927 a department for the newborn at the Peninsula Maternity Hospital—the first in the Union. He rose to be Lecturer in Paediatrics to the University of Cape Town and head of the Department of Paediatrics in Groote Schuur Hospital. At one time he not only held these posts but was also consultant paediatrician at Wynberg, Woodstock and Somerset Hospitals and paediatrician to the Peninsula Maternity and Somerset Maternity Hospitals, and the Lady Michaelis and Princess Alice Homes. Occasionally he acted as Superintendent of the City Fever Hospital in the absence of his friend Dr. J. F. Wicht. He also lectured to the nurses at the Booth Memorial and the Peninsula Maternity Hospitals and Carinus College.

Burdened with all this work it is any wonder that he failed to carry out Altmouth Wright's advice, 'Before your ship of life founders be sure you get all the goods up out of the hold on to the quayside'? Alas! He left but few scientific papers.

He had, however, one short respite from all this work, during his military service in the second World War. He was boarded out on account of his heart after 8 months—the first whisper of the condition that finally was to prove fatal.

He married about 5 years ago—it proved a very harmonious marriage. By then, however, he was paying for his success with frequent anginal attacks. In January 1955, he retired from his hospital post on reaching the age limit, but continued in private practice.

In December 1956 after an acute attack of cholecystitis, Rabkin underwent a cholecystectomy, and soon after, while on holiday at Hermanus, he died in pulmonary oedema.

*Dr. A. I. Goldberg writes:* A lifelong friendship impels me to pay tribute to the memory of the late Dr. J. Wolf Rabkin. In his passing, the medical profession especially in the Cape has lost a very vital and colourful personality, and an outstanding paediatrician. Over a period of years he suffered from indifferent health, despite which he refused to relax but carried out his professional and other activities at high pressure. His choice of paediatrics as a specialty was understandable in the light of his fondness for children, his warmheartedness, and his humanitarian instincts. He had the happy knack of gaining the confidence and affection of his little patients—so much so, that he was universally referred to as 'Uncle Bunny'. He was quite oblivious of time when faced with a desperately sick child, and was untiring in his efforts to render all possible service.

I first met Wolf Rabkin while still at the South African College School. Even at that time he had a forceful personality; he was a keen and enthusiastic member of the debating society. Before proceeding to Edinburgh University he completed 2 years of his medical course at the South African College. After graduating in 1920, he held various appointments at Liverpool Royal and other hospitals in the North of England. For a time he was assistant to the late Dr. Martin of North Shields—a rare type of family doctor and a man of outstanding personality and ability. It was there that he realized that, that his real bent was the care of sick children, and he decided to specialize in that subject.

He became a resident to the late Prof. Sir John Fraser at the Children's Hospital, Edinburgh. Fraser, a man with an international reputation, exerted a tremendous influence over him—he never tired of quoting him and modelled his work and teaching on the Fraser pattern. From Edinburgh he went to London, where for some years he worked under Drs. Frew, Still and Cockayne at the Great Ormond Street Hospital for Children, and he rounded off his postgraduate studies by working under Czerny and Finkelstein in Berlin.

On his return to Cape Town he set up in practice in paediatrics and became attached as honorary paediatrician to many hospitals in the Cape Peninsula. He became a member of the teaching staff

of the Medical School, and in due course he rose to be Senior Paediatrician at Groote Schuur Hospital and Head of that Department. He was largely responsible for the establishment of the 'baby clinics' at the Peninsula and other maternity hospitals. He played an important role in the planning of the Red Cross Children's Hospital: he was unremitting in his efforts and gave much of his valuable time and knowledge to the architects in the planning of this institution. It was not his fault that so many of the features that he considered essential were not incorporated in the ultimate design and that financial stringency forced the authorities to cut down the number of beds, and to erect an Institution on more austere lines.

Countless children and parents of all races will bless the memory of one who gave so generously and unstintingly of his best to alleviate their suffering; and many students will testify to the lasting benefit they derived from his stimulating lectures and bedside teaching.

It was while spending a recuperative holiday at Hermanus that he passed away, and it was my sad and painful duty to be with him at the end of his journey. May he rest in peace.

\* \* \*

Dr. E. E. Mossop M.R.C.S, L.R.C.P.

*Dr. D. P. Marais, of Cape Town, writes:* The passing of Dr. Ernest Edward Mossop removes from our ranks one of the older genera-



Dr. E. E. Mossop

tion, and one who has also left an interesting record as archaeologist and author.

His predilection for South African history dated from his school days, which were spent at Kingswood College, Grahamstown, where the influence of Sir George Cory fired him. This predisposition never left him, and it became a principal pursuit after he abandoned practice some 20 years ago.

He qualified M.B., B.S. of the London University and took his 'Conjoint' at the same time. At St. Thomas's Hospital he completed an internship on the surgical side and then transferred to Great Ormond Street Hospital for Children to another surgical appointment. On his return to South Africa in 1907 he was the successful candidate of a large field of applicants for the post of Resident Surgeon and Superintendent of the New Somerset Hospital, Cape Town, which had just been vacated by Dr. H. A. Moffat. Here he remained doing excellent work, and gaining surgical dexterity and experience until 1913, when he commenced private practice as a surgeon in Cape Town.

An interlude of War Service 1914-18 interrupted his private practice; this was spent entirely at Wynberg Military Hospital, where he worked on the surgical side.

He soon became a familiar figure at the Archives in Cape Town and his holidays and spare time were usually devoted to historical or archaeological research. The outcome of these holiday motor excursions was his first book 'Old Cape Highways'—an interesting and historically sound treatise which won immediate recognition and popularity.

The birth of the Van Riebeeck Society, of which he was one of the founders, provided further scope for his gift of historical authorship and he was responsible for 6 of its published volumes. His last piece of research, 'Lives of the Earlier Krugers', was published in the Union Archives Year Book.

He abandoned professional work 20 years ago to devote himself more fully to his hobby. Exploring the Fish Hoek Valley he collected a large number of artifacts and eventually donated his complete collection to the Fish Hoek Museum.

By nature retiring, and somewhat shy, he was seldom found in



the limelight, but to those who came to know him well he revealed a very charming personality. Always neat in his person, he was equally neat and precise in his surgical work and meticulously exact in his historical research. To those privileged to know him well his friendship was a charming possession.

He died in his 77th year, suddenly, from a 'coronary' during an early morning walk on the beach near his home at Fish Hoek.

He leaves a wife, a married daughter and two sons, one a lecturer in French at Durham University, the other an officer in the Air Force and liaison officer at South Africa House, London.

To these and to his brothers we extend our deep sympathy in their bereavement.

*Dr. H. Kramer of Cape Town writes:* My association with the late Dr. E. E. Mossop dates back to the first World War, when we were associates on the staff of the Wynberg Military Hospital.

His dynamic personality attracted all his colleagues around him. It was my privilege to commence an intimate and enduring friendship, which lasted until the very end.

Ernest Mossop was a man who by nature was a modest, retiring personality, preferred the wide open spaces of our country side and could speak with authority on the highways and byways in the Western Province. For his patients nothing was too much. No wonder his practice grew and with it the affection and love of those he served! He maintained a high standard of professional ethics at all times, and was ever willing to help the poor and needy. Of him it may be said:

'How happy is he born and taught that serveth not another's will.

Whose armour is his honest thought  
And simple truth his utmost skill.'

## POLIOMYELITIS VACCINE SUPPLY

The following press release on Poliomyelitis Vaccine has been issued by the Department of Health under date 6 December 1956.

As a result of the temporary shortage of our own vaccine the question has arisen whether vaccine should be imported from America. It must, however, be pointed out that it is expected that before the end of this month two further batches, of about 80,000 doses each, of our own vaccine will be made available. It will of course have to be distributed to the different parts of the country, and this will take a few days, but it is expected that these two batches of vaccine will be sufficient to provide for all the applications for first injections which have been received up to date.

A further quantity of 80,000 doses will become available during January and after that larger quantities will be distributed monthly, about 160,000 doses a month.

It is therefore considered that within a very short period we shall be in a position to provide for all the requirements of the Union.

In all the circumstances, and having regard to the fact that South Africa is one of the few countries in the world which produces its own poliomyelitis vaccine, it is not considered desirable that the Government should make application for the importation of vaccine from America.

*Permits for the importation of vaccine by private firms in South Africa were issued some weeks ago and if the vaccine had been readily available in America the authorities there would have made batches of it available to these firms.*

It must be added that any apparent delay in the distribution of the vaccine is accounted for by the strict control which this Department exercises in connection with the safety tests. The public will undoubtedly agree that these precautionary measures are of the utmost importance and will support the Department's attitude in this respect.

[Our *Italics*—Editor, *South African Medical Journal*.]

## NEW PREPARATIONS AND APPLIANCES : NUWE PREPARATE EN TOESTELLE

**Romicil 'Roche'.** This new antibiotic preparation has been released by Roche Products (Pty.) Ltd., who supply the following information:

### Composition

Romicil contains an active substance the antibiotic oleandomycin obtained from *Streptomyces antibioticus*. It is available in capsules of 250 mg. and 100 mg. and in dry-substance vials containing 500 mg. of oleandomycin in the form of the crystalline phosphate.

### Properties

Romicil facilitates the rapid control of most infections, including severe forms. It is well tolerated on oral and parenteral administration, and it does not affect the physiological activity of the useful intestinal flora. Its use gives rise to allergic reactions in extremely rare cases only.

The antibacterial spectrum of Romicil places it between penicillin and the broad-spectrum antibiotics. As a rule there is no cross-resistance with the latter. Romicil is often effective against infections caused by bacteria which have become resistant through previous antibiotic therapy.

Romicil is stable at all pH values between 1.1 and 9.0 and is thus not inactivated in either the stomach or the duodenum. Administration of therapeutic doses at 6-hourly intervals provides an almost constant effective blood level; notably high concentrations are found in the bile and in the urine.

### Indications

As a result of extensive clinical trials, Romicil can be recommended in:

Infections due to most Gram-positive and certain Gram-negative bacteria, including those resistant to penicillin, to broad-spectrum

antibiotics or to sulphonamides, and in infection due to certain viruses and rickettsiae.

Respiratory tract infection: bronchitis, pneumonia (including virus and whooping-cough pneumonia), bronchopneumonia and Q-fever, bronchiectasis, pulmonary abscess, pleurisy, empyema.

Tonsillitis, sinusitis, otitis, parotitis, scarlet fever and its complications, diphtheria, septicemia, endocarditis lenta.

Biliary-tract and urinary-tract infections, gonorrhoea. Furunculosis, acne phlegmonosa, erysipelas, impetigo.

Abscesses, paronychia, osteomyelitis, anthrax.

Enteritis due to antibiotic-resistant staphylococci.

### Dosage

**Oral.** Adults: Initial dose 2.4 × 250-mg. capsules, followed by 1.2 × 250-mg. capsules every 6 hours. The minimum daily dose is 1g. Children: 30-50 mg. per kg. daily according to the severity of the case, divided into single 6-hourly doses; in young children, the 100-mg. capsules should be used. The capsules should be swallowed whole with a little liquid without chewing. When necessary, the capsule can be emptied and its contents taken with a little liquid or jam.

**Parenteral** (in severe cases, where oral administration is impossible): 2.4 vials × 500 mg. (1.2 g.) per 24 hours spread over 2-4 intramuscular or intravenous injections. After the first injection Romicil may be given as intravenous drip infusion diluted in glucose or physiological NaCl solution. The introduction of the contents of a solvent ampoule into a vial of Romicil produces an isotonic solution for injection.

### Packings

Capsules 250 mg.—6, 12 and 100. Capsules 100 mg.—12 and 100. Vials 10 c.c. mg. dry substance—1 and 6. The packings of dry substance vials also contain solvent ampoules (10 c.c. 0.5% NaCl solution).

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## PASSING EVENTS : IN DIE VERBYGAAN

Dr. P. F. H. Wagner of East London, is proceeding overseas on holiday. He will be away for 7 months and will spend the time travelling in Europe and the United States. He expects to return to East London about 6 September 1957.

Mr. W. Silber, M.B., Ch.B. (C.T.), F.R.C.S. (Edin.), Specialist Surgeon, is now in practice at the following addresses: Fifth Floor, National Mutual Buildings, Church Square, Cape Town. Telephones: rooms 3-7785, residence 7-4458, if no reply 7-7727.

Dr. W. Silber, M.B., Ch.B. (C.T.), F.R.C.S. (Edin.), Spesialis-Chirurg, praktiseer nou by die volgende adres: Vyfde Vloer, National Mutual-Gebou, Kerkplein, Kaapstad. Telefoon: spreekkamers 3-7785, woning 7-4458, indien geen antwoord 7-7727.

Mines Benefit Societies Medical Officers' Group. The Annual General Meeting of this Group will be held on 14 February at Medical House, Esselen Street, Hospital Hill, Johannesburg, at 8.15 p.m. An address on 'The Clinical Aspect of Pneumokoniosis' will be given by Dr. G. K. Sluis-Cremer.

Southern African Cardiac Society. At a meeting of the Cape Province Section of the Southern African Cardiac Society, held at Groote Schuur Hospital, Cape Town, on 23 October 1956, Dr. Maurice Nellen in the chair, it was announced that the Southern African Cardiac Society had been granted affiliation to the International Cardiac Society.

The main business of the evening was a symposium on the causes of enlargement of the pulmonary artery, lead by Dr. V. Schrire, Dr. L. Vogelpoel, Dr. H. Muller and Dr. Maurice Nellen. Dr. Barnett Isaacson showed a case of coronary thrombosis proved by electrocardiogram, in a European boy of 16.

News letters have been received from the following corres-

ponding members: Dr. Gunnar Biorck of Malmo, Sweden; Dr. Bronte Stewart, Minnesota, USA; and Dr. Walter Sommerville of London.

Members are reminded that they should notify any change of address to the Secretary of the Medical Association of South Africa at P.O. Box 643, Cape Town, as well as to the Registrar of the South African Medical and Dental Council, P.O. Box 205, Pretoria.

Failure to advise the Association can only result in non-delivery of the *Journal*. This applies to members proceeding overseas as well as to those who change their addresses within the Union.

The 12th International Congress on Occupational Health. This Congress, which has been organized by the Permanent International Committee on Industrial Medicine, will be held in Helsinki, Finland, on 1-6 July 1957. A summary of the subjects to be discussed and other details were published in the *Journal* of 21 July 1956 (30, 695). A brochure has now been published in English and the other Congress languages containing the full provisional programme of the Congress, and other particulars required by prospective members of Congress.

The time limits set are as follows (1957): registration and hotel reservations, 1 April; abstracts of papers, 1 March; manuscripts, 1 July; entries for the film competition and scientific exhibition 15 May; entries for the technical exhibition, 1 April.

Copies of the brochure and other papers can be obtained from the Secretary General, Dr. Pertti Sumari, c/o Työterveyslaitos, Haartmaninkatu 1, Helsinki-Töölö. The South African members of the Permanent International Committee on Industrial Medicine are Maj.-Gen. A. J. Orenstein, Pneumoconiosis Research, C.S.I.R., 18 London House, Loveday Street, Johannesburg (P.O. Box 4788), and Dr. J. H. G. van Blommestein, Anglo-American Corporation, 44 Main Street, Johannesburg, to whom enquiries may also be directed.

## REVIEWS OF BOOKS : BOEKRESENSIES

## DISEASES OF THE EYE

*Endogenous Uveitis*. By Alan C. Woods, M.D., with Illustrations by Annette Smith Burgess. Pp. xvi + 303, with XLII colour plates, 81 other illustrations, 8 tables and Bibliography. 100s. Od. London: Baillière, Tindall and Cox Ltd. 1956.

Contents: I. Nomenclature—Classification—Pathogenesis. II. The Clinical Picture and Pathology of Granulomatous and Nongranulomatous Uveitis. III. Etiologic Diagnosis of Uveitis. IV. The Treatment of Uveitis. Bibliography. Index.

The author, Professor Emeritus of Johns Hopkins University, is well-known to readers of ophthalmic literature for his contributions, particularly in the sphere of tuberculosis and allergy. He is therefore well qualified to discuss this difficult subject.

The importance of making a clinical differential diagnosis between granulomatous and non-granulomatous uveitis is stressed and the main differences are tabulated. The presumptive diagnosis once made, it is the ophthalmologist's duty to attempt to determine the aetiology. The writer notes that the medical consultant who is completely *au fait* with the medical problem is rare. We should all agree with his statement that too often an 'accurate but uninspired report of the routine physical examination and usual laboratory studies is supplied.' The ophthalmologist must act as 'captain of the diagnostic team' to channel the investigation into the necessary specific fields. An office management routine is clearly described. By following the routine, the view that adult granulomatous uveitis is predominantly tubercular in origin has gradually been amended in recent years to embrace other causes, e.g. in 1941 at the Wilmer Institute, tuberculosis was said to be the cause of 79% of uveitis but in 1953 only of 23%, the diagnosis of toxoplasmosis, sarcoid and brucellosis being made more frequently.

Failure to perform a complete examination accounts for the high number of cases of undetermined aetiology (80% in some clinics.) However this routine will be most difficult to follow in ordinary private practice, entailing, as it does, expensive and time-consuming laboratory and consultative assistance with frequently negative results. The author himself calls it an impossibly high maximum of examinations. A basic minimum of examinations, however, must be made.

The various lines of treatment are delineated and the section on hormone therapy is particularly valuable, the steroids generally not being indicated in granulomatous uveitis except for sarcoidosis and sympathetic uveitis.

L.S.

## COLPOSCOPY

*Die Kolposkopie in der Praxis—Einführung in die gynäkologische Krebsfrühdagnostik*. Von Dr. med. Herbert Cramer. VIII + 103 Seiten, 40 farbige Kolpofotogramme, 40 erläuterte Skizzen und 40 mikroskopische Abbildungen. DM 30.- Stuttgart: Georg Thieme Verlag. 1956.

Inhalt: Vorwort. I. Einleitung. II. Die Stellung der Kolposkopie in der gynäkologischen Grundlagen. V. Technischer Anhang. VI. Literaturhinweise. VII. Sachregister.

This book consists mainly of excellent coloured photographs as seen through the colposcope. There are 40 of these illustrations; each one has a schematic black-and-white explanatory picture accompanying it, as well as a histological microphotograph. The significance of the deviations from the 'normal' picture is indicated and the steps that should be taken either to establish a more definite diagnosis or to treat the lesion.

There are two sections. The first deals mainly with the benign

abnormalities. In the latter we see lesions that are related to the carcinomatous state, e.g. leukoplakia, and other atypical epithelia, and abnormal blood vessels.

The colposcope is not yet very popular among general practitioners, one of the main reasons for this being the difficulty in interpreting what one sees through this instrument. Whoever is in possession of this book need have no such difficulties.

The use of the colposcope and this manual will avoid many an unnecessary biopsy and, what is more important, will lead to many cases of carcinoma of the cervix being diagnosed in the early and treatable stages.

The author has indeed made a very valuable contribution in the fight against cancer.

W.E.K.L.

#### TOXIC SIDE-EFFECTS OF DRUGS

*Schadelijke Nevenwerkingen van Geneesmiddelen.* Supplement I. By Dr. L. Meyler. Pp. 127. f9.75. Assen: Van Gorcum & Comp. N. V. 1956.

**Contents:** Woord vooraf. I. Geneesmiddelen, die een stimulerende werking hebben op het Centrale Zenuwstelsel. II. Geneesmiddelen, die een verlamende werking hebben op het Centrale Zenuwstelsel. III. Analgetica. IV. Anipyretische Analgetica. V. Anaesthetica. VI. Geneesmiddelen, die verslapping der spieren geven. VII. Geneesmiddelen, die invloed uitoefenen op het Sympathische Zenuwstelsel. VIII. Antihistaminen. IX. Geneesmiddelen, die op de hartsnieren werken. X. Metalen. XI. Metalloïden. XII. Sulfonamiden. XIII. Andere Chemotherapeutica. XIV. Antibiotica. XV. Geneesmiddelen tegen Malaria. XVI. Geneesmiddelen tegen Amoebe. XVII. Wormmiddelen in Insecticiden. XVIII. Laxantia. XIX. Hormonen. XX. Andere organoextracten. XXI. Anti-schildklierpreparaten. XXII. Anti-coagulantia. XXIII. Cytostatica. XXIV. Bloed en bloedvervangingsmiddelen. XXV. Vitaminen. XXVI. Sera en Vaccins. XXVII. Disulfiram. XXVIII. Diverse geneesmiddelen. Register.

This volume provides supplementary information to the parent book, of which an English translation was published in 1952 (Side Effects of Drugs; Elsevier Publishing Company). This supplement in Nederlands deals with drugs that have recently been introduced; their harmful effects are not yet completely known but much of what has so far been reported is indicated in this book. There is also further information on the toxic effects of older drugs such as paraldehyde, cinchophen, sodium morrhuate. The references which are given at the end of each section deal mainly with recent reports but occasionally older references are cited. The book is of value for those who wish to confirm the possibility of side-effects produced by a particular drug in a patient under treatment. The prescribing doctor might very well read beforehand about the potential harm in the use of newer agents. The book also makes interesting general reading; for instance the reports on vaginal damage produced in a number of subjects by the introduction of potassium permanganate, the untoward effects of amphetamine compounds, prednisone and prednisolone. In most cases the report on individual drugs is short, but several pages are devoted to the account of penicillin reactions.

N.S.

#### CANCER OF THE FEMALE GENITAL TRACT

*Gynecologic Cancer.* Second Edition. By James A. Corscaden, Ph.B., M.D. Pp. ix + 546. 116 Figures. 80s. Baltimore: The Williams & Wilkins Company, London: Baillière, Tindall and Cox Ltd. 1956.

**Contents:** 1. Introduction. 2. Diagnosis. 3. Cancer of the Vulva. 4. Cancer of the Vagina. 5. Cancer of the Cervix. 6. Cancer of the Endometrium. 7. Cancer of the Myometrium. 8. Neoplastic Diseases of the Chorion. 9. Cancer of the Fallopian Tube. 10. Cancer of the Ovary. 11. The Menopause. 12. Management of the Cancer Patient. 13. The Nature of Cancer. Index.

This is a very good book written by a gynaecologist with extensive experience in cancer of the female genital tract. Every aspect of diagnosis, prognosis and treatment is discussed while references to the literature are numerous and up to date.

The introductory chapter is most illuminating and contains some very interesting statistics. The author emphasizes the accessibility of cancer in the greater part of the female genital tract to diagnostic procedures which are easily carried out. Diagnosis can therefore be established early in the disease. He states: 'Simply by applying the knowledge which is now available, so that both the patient and the physician may do their parts, they can raise the five-year survival from about 20% to approxi-

mately 80% among those patients afflicted with gynaecological cancer.'

The longest chapter, as might be expected, is that on carcinoma of the cervix. Radiation therapy is discussed at great length in all its different aspects. The chapter on carcinoma of the endometrium occupies nearly one hundred pages.

Apart from the introductory chapter there are several excellent chapters on the broader aspects of cancer such as the diagnosis of gynaecological cancer, the management of the cancer patient and the nature of cancer. There is also a very useful and instructive chapter on the menopause.

This is an excellent book indeed. It is written primarily for the gynaecological specialist, who will find here a wealth of information not usually available in one volume.

E.M.S.

#### UROLOGY

*Textbook of Urology.* A practical guidebook for the student and clinician. By Victor F. Marshall, M.D., F.A.C.S. Pp. x + 268 with illustrations. \$5.50. New York: Paul B. Hoeber Inc. 1956.

**Contents:** Preface. 1. Introduction. 2. Obstruction-infection. 3. Obstructions in the Upper Urinary Tract. 4. Diseases of the Prostate. 5. Urinary Calculi. 6. Congenital Anomalies. 7. Neurogenic Bladder. 8. Urogenital Tuberculosis. 9. Trauma. 10. Urethritis. 11. Local Genital Lesions and Disorders. 12. Miscellaneous Diseases. 13. Impotence and Infertility in Men. 14. Neoplasms of the Penis, Scrotum, and Testes. 15. Neoplasms of the Bladder. 16. Cancer of the Prostate. 17. Neoplasms of the Kidney. 18. Hematuria. 19. Urologic Surgery. Appendix. Index.

It has been a pleasure to read this students' guide-book. The principles of urological diagnosis and treatment are soundly dealt with in sufficient detail to be interesting but not so exhaustively as to be too much for the student.

Excellent drawings illustrate the main points which it is desired to emphasize and many of these drawings are serial pictures, after the manner of a cartoon, which are certain to impress important facts on the student's mind.

The language is expressive and clear and makes the volume an easy one to read.

Little attention is paid to details of operations, but the main objects and principles of urological operations are well set out. Five admirable illustrations display the different methods of prostatectomy to more effect than any written text.

This is a very good book for students. A study of it before lecturing or demonstrating would be an advantage even to the experienced teacher.

J.A.C.

#### DISEASES OF THE EYE

*An Atlas of Diseases of the Eye.* Compiled by E. S. Perkins, M.B., F.R.C.S. and Peter Hansell, M.R.C.S., F.R.P.S. with a foreword by Sir Stewart Duke-Elder, K.C.V.O., M.A., D.Sc., Ph.D., M.D., F.R.C.S. Pp. ix + 91. Coloured Illustrations. 42s. net. London: J. & A. Churchill Ltd. 1957.

**Contents:** Part I. Lids and Orbit. The Normal Eye. Congenital Defects of Lids and Orbit. Inflammatory Lesions of the Lids. Neoplasms of the Lids. Skin Conditions. Ectropion and Entropion. Exophthalmos. Miscellaneous Conditions of the Lids. Part II. Conjunctiva and Cornea. Inflammation of the Conjunctiva. Miscellaneous Conjunctival Conditions. Conjunctival and Epibulbar Tumours. Inflammations of the Cornea. Corneal Degenerations. Inflammations of the Sclera and Pigmentary Changes. Part III. Uveal Tract and Lens. Retrolental Fibroplasia. Inflammations of the Anterior Uveal Tract. Trauma to the Anterior Segment. Neoplasms of the Anterior Uveal Tract. The Lens. Gonioscopy. Miscellaneous Conditions of the Uveal Tract and Lens. Retrolental Fibroplasia. Part IV. The Fundus in Systemic Disease. The Normal Fundus. Arteriosclerosis. The Fundus in Hypertension. Diabetic Retinopathy. Arterial and Venous Occlusions. Retinal Peri-vascularitis. Miscellaneous Systemic Conditions Involving the Retina. Part V. The Fundus in Local Disease. Optic Disc Changes. Congenital Lesions of the Fundus. Haemangiomas of the Retina. Trauma to the Posterior Segment. Choroiditis. Toxoplasmosis. Neoplasms of the Posterior Segment. Retinal Detachment. Exudative Retinitis or Coats's Disease. Retinitis Pigmentosa. Heredo-Macular Degenerations. Senile Macular Degenerations. Index.

Recently Roche Products were kind enough to send a set of beautifully illustrated examples of various eye conditions to practising ophthalmologists throughout the country. These illustrations appeared in six convenient parts and several of us found them useful in demonstrating various conditions to the medical students who attended the Eye Department in our Hospital.

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These same pictures (I noted only two pictures differing from those in the Roche series) have now been published in book form under the above title. Examples of all the common eye-conditions are given with short explanatory notes on each. Great attention has been paid to detail and all the illustrations are remarkable testimonials both of the photographer's and of the artists' skill. The text is remarkably clear.

For teaching purposes this atlas will recommend itself. The general practitioner may also find it useful identifying the various clinical conditions that commonly arise, especially as the atlas is extremely well indexed and arranged; also there is no doubt that a picture demonstrating clearly all the salient points in a disease condition fixes it much more deeply in the mind than a mass of written words can do. The subsidization of the project by Roche products has resulted in a substantial reduction of the price of the atlas.

L.S.

## EXPERT COMMITTEE ON INSECTICIDES

Expert Committee on Insecticides, Sixth Report. *World Health Organization: Technical Report Series*, 1956, No. 110. 88 pages. Price: 3s 6d, \$0.60, or Sw. fr. 2. Available also in French and Spanish. Local Sales Agent: Van Schaik's Bookstore (Pty) Ltd. P.O. Box 724, Pretoria.

In the numerous campaigns undertaken throughout the world against insect-borne diseases, various types of spraying and dusting apparatus have been used on an ever wider scale in recent years. The WHO Expert Committee on Insecticides has thoroughly reviewed, in the light of field experience, the specifications which it established in 1950 and 1951 for three types of apparatus: compression sprayers, stirrup-pump-type sprayers, and hand-carried, hand-activated, plunger-type dusters. The revised specifications are contained in the 6th report of the Committee, which has just appeared.

Since insecticide equipment is destined to be used intensively and sometimes under very difficult conditions, it is important that it always be maintained in perfect working order. The report gives full details regarding maintenance and repair of sprayers and dusters and includes a list of spare parts which should be supplied with them. It also includes information on the characteristics and efficiency of fogging and misting machines and suggestions for their use.

The utilization of highly toxic insecticides tends to increase the risks to which persons handling or applying such products are exposed, and an important section of the report is devoted to this subject. It indicates the rules to be followed and the protective measures to be taken, such as the wearing of special clothing and the use of special devices by persons engaged in spraying operations or in preparing insecticide solutions and suspensions.

The report describes the impregnation of clothing and bedding with insecticides, a method which could probably be applied also in treating the tents of nomadic peoples in malarial regions.

Other subjects covered by the report are: standardization of equipment; improvements which could be introduced to meet local requirements; equipment for the application of molluscicides in bilharziasis-control programmes; and equipment for the disinsectization of aircraft. Finally, there are recommendations for research on a number of problems.

## OSTEOPATHY

*Osteopathy*. By R. W. Puttick, D.O., M.R.O. Pp. 80. 7s. 6d. net. London: Faber and Faber. 1956.

*Contents:* Preface. 1. The History of Andrew Taylor Still. 2. The Definition of Osteopathy. 3. The Theory of Osteopathy. 4. Training in the U.S.A. 5. Osteopathy in Great Britain. 6. The Art of Healing. 7. Case Histories. 8. Cures and the National Health Service. Postscript. Index.

This is a small book in which the author seeks to explain for lay persons the nature of osteopathy with its origin and present-day scope.

He gives an account of Andrew Still, the creator of osteopathy and examines both his theory and practice. He describes briefly the training of osteopaths both in the United States and in the United Kingdom and adds some selected case histories. Finally he deals with the place of the osteopath in the National Health Service.

A.T.

## ALCOHOLISM

*An Alcoholic's Story*. By "Alkie". Pp. 156. 7s. 6d. Cape Town: Maskew Miller Limited. 1956.

*Contents:* 1. Desperate but Befriended. 2. "Appear Before Council". 3. Committed to an Institution. 4. The Institution. 5. My Comebacks. 6. Love Enters my Life. 7. I Realize I am an Alcoholic. 8. My Ambition Fulfilled. 9. Alcoholics Anonymous Enters My Life. 1. A Miscellany of Letters. II. Alcoholism and its Treatment. III. Hospitalization of Alcoholics in Provincial Hospitals. IV. A Guide to the Twelve Steps of Alcoholics Anonymous.

This little book, curiously affecting in style, describes the genesis of alcoholism in a chronic alcoholic and the difficulties of rehabilitation. The interest is heightened by the fact that the author is a medical man who has appeared before the Medical Council as a result of his alcoholism and has attained some measure of security as a result of treatment with Antabuse. This is later consolidated by group therapy with Alcoholics Anonymous. The literary style is poor but the book leaves a curiously honest impression. It may well be of assistance to fellow sufferers.

T.S.

## MEDICAL BIOCHEMICAL MICRO-ANALYSIS

*Micro-analysis in Medical Biochemistry*. Third Edition. By E. J. King, M.A. (McMaster), Ph.D. (Toronto), D.Sc. (Lond.), F.R.I.C. and I. D. P. Wootton, Ph.D. (Lond.), M.A., M.B., B.Chir. (Camb.), F.R.I.C. Pp. xi + 292. 25 Illustrations. 22s. 6d. net. London: J. & A. Churchill, Ltd. 1956.

*Contents:* Preface. I. Normal Values. II. Control of Laboratory Accuracy. III. Procedures for Whole Blood. IV. Procedures for Plasma. V. Procedures for Serum. VI. Electrophoresis of Plasma Proteins. VII. Procedures for Cerebrospinal Fluid. VIII. Procedures for Faeces. IX. Procedures for Urine. X. Technique of Metabolic Balance Studies. XI. Flame Photometry. XII. Analysis of Calculi. XIII. Gastric and Duodenal Analysis. XIV. Tests of Function. XV. Radioactive Isotope Tests. XVI. Spectroscopic Procedures. XVII. Colorimetric and Spectrophotometric Analysis. XVIII. Hydrogen Ion Concentration. XIX. Volumetric Solutions. References. Index. Table of Logarithms. Table of Atomic Weights. Table of Solubilities.

This book is a laboratory manual giving the details of the biochemical methods used in the routine laboratory practice of the London Postgraduate Medical School. Dr. Wootton, the lecturer in chemical pathology, has joined Professor King as co-author.

As might be expected, developments in clinical chemistry have entailed considerable changes in the book, the last edition of which was published in 1951. There are new chapters on the quality control of routine laboratory investigations, electrophoresis, flame photometry, and tests depending on the use of radio-active isotopes. New methods have replaced many of the older analyses, some of which were difficult to make work well. The authors have a curious loyalty to the old volumetric Van Slyke apparatus, but they have abandoned the sections on visual colorimetry and have concentrated on the use of photo-electric absorptimeters and spectrophotometers. A few methods depending on measurements in the ultra-violet and infra-red are included.

The book should be of interest to all laboratories practising chemical pathology and presents a selection of methods, some old established, and others new and well worth trying. Its greatest value will naturally be to those intending to take the postgraduate course in pathology at Hammersmith.

G.C.L.

## CARDIOLOGY

*Diseases of the Heart and Circulation*. Second, Revised and Enlarged Edition. By Paul Wood, O.B.E., M.D. (Melbourne), F.R.C.P. (London). Pp. xxxviii + 1005. 513 Figures. £5 5s. net. London: Eyre & Spottiswoode (Publishers) Ltd. 1956.

*Contents:* Introduction. I. The Chief Symptoms of Heart Disease. II. Physical Signs. III. Electrocardiography. IV. Radiographic Diagnosis. V. Special Investigations. VI. Disorders of Cardiac Rhythm. VII. Heart Failure. VIII. Congenital Heart Disease. IX. Rheumatic Fever and Active Rheumatic Carditis. X. Chronic Rheumatic Heart Disease. XI. Non-rheumatic Myocarditis and Miscellaneous Cardiopathies. XII. Pericarditis. XIII. Syphilitic Aortitis. XIV. Ischaemic Heart Disease. XV. Hypertensive Heart Disease. XVI. Pulmonary Embolism. XVII. Pulmonary Hypertension. XVIII. Cor Pulmonale. XIX. Thyrotoxicosis and the Heart in Myxoedema. XX. Hyperkinetic Circulatory States. XXII. Traumatic Lesions of the Heart and Great Vessels. XXIII. Cardiovascular Disturbances Associated with Psychiatric States.

There is no doubt in the reviewer's mind that this is the most useful reference work on Cardiology in the English language



today. At the time when this book went to Press the advances dependent on the use of an extracorporeal circulation were no doubt not yet fully reported, but in all other respects it is thoroughly up to date. It reflects and evaluates the rapid advances and revolutionary developments in the entire field of cardio-vascular disease.

The general planning of its contents is based on haemodynamic and etiological considerations, making full use of physiological data derived from special methods of investigation such as cardiac catheterization, angio-cardiography, phono-cardiography and so forth. (Left heart catheterization is not mentioned.)

The value of this book is further enhanced by the fact that so much about which the author writes is based on his own experience and on first-hand information derived from a wealth

of clinical material. At the same time he is thoroughly conversant with the literature and he quotes it extensively. In the controversial fields of cardiovascular diseases, he adheres to proven facts and is not influenced by clinical impressions. For example, on page 748 he reviews the data in the literature with reference to long-term anticoagulant therapy for ischaemic heart-disease and concludes by saying that 'these results compare favourably with the natural course of ischaemic heart disease'.

This book is easy to read because of the clarity of the author's writing and the wealth of well selected and well captioned illustrations. For these many reasons Dr. Wood's book will maintain its place as a standard reference work for students and specialists alike.

T.J.D.

## CORRESPONDENCE : BRIEWERUBRIEK

### TETANUS IN SOUTH AFRICA

*To the Editor:* In your editorial<sup>1</sup> of 17 November last you stress the excessive incidence of tetanus in South Africa and urge the value and practicability of active immunization of the population against this mortal disease.

Sir Henry Dale, O.M., F.R.S. in the Stephen Paget Memorial Lecture 1955<sup>2</sup> stated—under the heading *Tetanus in the Second World War*—"The Mediterranean campaign gave an opportunity for comparing the experience of the South African troops who had not been inoculated with the Australian and British troops who had. Amongst less than 4,000 South African wounded there were 5 cases of tetanus, while amongst more than 8,000 Australian wounded there were none, and among more than 27,000 British there was only one, in a man whose immunization was doubtful".

A. Simpson Wells

Whitehall Court  
Rondebosch, Cape  
23 January 1957

1. Editorial (1956): S. Afr. Med. J., **30**, 1101.
2. Douthwaite, A. H. (1955): Brit. Med. J., **2**, 1266.

### LATROGENIC NEUROSIS DUE TO TREATMENT OF HYPERTENSION WITH MODERN ANTI-HYPERTENSIVE DRUGS

*To the Editor:* I am seriously concerned at the number of cases of hypertension which I am encountering, in whom a state of severe neurosis and depression has been induced by treatment for hypertension. This state of affairs was most exceptional before the introduction of modern hypotensive drugs. The source of the trouble seems to be that these individuals have become alarmed by the fact that they have to see their doctor so frequently, over so many months, to have their blood pressure checked and numerous tablets tried out. It is particularly in these cases where various combinations of drugs have been tried, and where they have failed, that severe depression has been created. The patients feel that their condition must indeed be serious to warrant so much attention. And, now that it has failed, they feel their doom is sealed. When such cases have reached me I have sometimes found all my efforts at reassurance unsuccessful. Several have had blood pressure of the order 180-190 systolic, 110 diastolic, with no retinopathy, no urinary abnormalities and no sign of left ventricular strain on electrocardiogram. When I try to assure them that their chance of many years of useful life is very good, that there is no need to try any more combinations of drugs to lower their blood pressure, and that they will manage very well on a restriction of diet and salt, it is quite apparent that they do not believe me. I am obviously only trying to console them. How could their doctor have struggled so hard, for so long, if it didn't really matter? Reassurance and tranquilizers having failed, some have been in such a desperate nervous state that they have had to be referred to psychiatrists for more drastic therapy. Conversely, some have reached me *via* psychiatrists.

How can this state of affairs be avoided?

First of all I would suggest that in the present stage of our knowledge we should hesitate to submit patients with only slightly

elevated blood-pressures (e.g. 170/110), and no retinal urinary or cardiographic changes, to intensive hypotensive drug therapy. If it is decided to use a mild hypotensive drug like Reserpine, there is no urgency about arriving at the appropriate dosage. Their visits can be spaced at 3-weekly intervals to dispel any impression that there is anything serious going on. The total visits should be limited to 3 or 4, after which they can be examined 6-monthly.

If the hypertension is of sufficient severity to justify intensive treatment with the more complicated drugs, like Ansolysin or Mevasine, *there should be careful psychological preparation*. I usually explain to the patient that until 4 or 5 years ago the profession would have patted him kindly on the back, told him there was nothing to worry about, advised him in regard to diet, and restricted his salt. Out of a hundred such cases ninety would live a long and useful life. He is told that since the introduction of the new antihypertensive drugs a difficult situation has arisen. These drugs are sometimes very effective in bringing the blood pressure down to normal or almost normal. However, the disadvantage is that finding out an effective combination of drugs and the correct dosage involves frequent visits, often over many months. It is explained that if these attempts fail the patient must not be disappointed. We are only endeavouring to make an already good prognosis even better. If we fail, the outlook is still good. In this way the shockingly depressing results of failure can usually be averted.

One last point: It seems that some of the younger generation of doctors who have not experienced the old days of placebo therapy plus diet and salt restriction, are not aware how well the less severe hypertensives often did before the era of hypotensive drugs. To this extent they are at a disadvantage in conveying to their patients a sense of optimism about their future—which is still the best medicine at our disposal.

B. G. Shapiro

Dumbarton House  
Cape Town  
16 January 1957

### PRE-ANAESTHETIC MEDICATION FOR CHILDREN

*To the Editor:* I should like to congratulate Drs. Harrison and Maytom<sup>1</sup> on the excellence of their article on that very difficult subject, the pre-anaesthetic medication of children, particularly on their use of a body-weight basis, as opposed to age, for the assessment of dosage. In this respect, the pharmacologists have long been in advance of medical practice.

May I point out, however, that scopolamine and atropine are not, milligram for milligram, equipotent drugs? This vitates not only Harrison and Maytom's 'controls', but also that of the series of West and Papper.<sup>2</sup>

G. G. Henderson

36 Sandown Road  
Rondebosch  
21 January 1957

1. Harrison, G. G. and Maytom, P. (1957): S. Afr. Med. J., **31**, 56.
2. West, J. and Papper, E. (1950): Anaesthesiology, **11**, 279.

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